THE LIBRARY OF CONGRESS
1800

Class F74

Book .W6W365

THE
Worcester Magazine

DEVOTED TO

Good Citizenship and Municipal Development.

VOL. IX

JANUARY-DECEMBER, 1906.

PUBLISHED BY

The Board of Trade, Worcester, Mass.

WORCESTER, MASS.
PRESS OF F. S. BLANCHARD & CO.

CONTENTS.

A Molecule of Light on City Finances, by John B. Bowker, ... 74
An Epoch Making Year, by Rev. J. M. Van Horn, LL. D., ... 14
Assessments and Taxation, by George B. Hurlburt, ... 53
Banners of the World—Our Flag, by Rev. J. M. Van Horn, ... 64
Board of Trade Annual Banquet, ... 106
Board of Trade Notes, . . . 21, 43, 88, 110, 132, 151, 174, 197, 129
Business Suggestions for Merchants, ... 240
Campaign for Rural Progress, by Kenyon L. Butterfield, A.M. 18
Conduct of a Successful Machine Shop, by John R. Back, ... 258
Educational Results from Examinations, by Charles F. King, ... 150
Education Conditions and Results, by Charles F. King, ... 234
Eli Thayer and the Admission of Oregon, by Franklin P. Rice, ... 31
Eli Thayer and the Admission of Oregon, by Franklin P. Rice, Second Paper, . 51
Evolution of Transportation Methods, by Mr. E. G. Connette, ... 9
Frontispiece, ...
General Devens' Equestrian Statue, ... 156
Honorable Charles G. Washburn, ... 244
Honorable W. A. Lytle, President Worcester Board of Trade, ... 112
Judge Arthur Prentice Rugg, Massachusetts Supreme Court, ... 200
Main and Foster Streets Fifty Years Ago and Now, ... 222
Mayor-elect John T. Duggan, ... 8
Memorial Gate at Elm Park, ... 178
New Church of First Baptist Society, ... 134
New Home of Worcester County Institution for Savings, ... 46
New Union Station for Washington Square, ... 24
Worcester High Schools, ... 68
Worcester Polytechnic Institute Hydraulic Testing Plant, ... 90
General Devens' Statue Unveiled, ... 163
Giants of Then and Now, by James Logan, ... 141
Harvard's Oldest Graduate, ... 190
Honorable Charles Grenfill Washburn, ... 249
How to get Foreign Trade, by C. A. Green, ... 80
Is Organized Wealth a Menace to Republican Institutions? by James Logan, . . 251
Judge Arthur Prentice Rugg, ... 207
Loring Coes, Veteran Manufacturer, ... 171

Magazine and Municipal Comment—
A Chapter in Banking, . . 205
Advice from Germany, . . 74
An Approach for Union Station, . 27
Another Rush for City Offices, . 247
Anti-Noise Law Good Idea, . 30
Are We an Hysterical Nation? . 205
Assignment Bill Trimmed of its Snares, 117
Bancroft Hill for Public Park, . 4
Better Men are Needed, . . 203
Billboards and Public Parks, . . 139
Block Signals and Common Sense, . 29
Board of Trade Committees, . . 135
Board of Trade New Booklet, . 52
Boston Against Sky Line Advertising, 72
Boston Finds it Expensive, . . 73
Boston's Financial Debt, . . 48
Both have Broad Platforms, . . 136
Calls Them Harvard Ideals, . . 29
Carroll D. Wright for Massachusetts Tech., 7
Chicago Wrests Fair Name from Boston, 206
Clark University in Carnegie List, . 157
Commission for Grade Schools, . 162
Committee of Twenty Satisfied, . 115
Competing Line to Boston, . . 49
Congress for Free Alcohol, . . 91
Congressman Rockwood Hoar, . 247
Crane for Important Commission, . 7
Dead Issue in Worcester, . . 27
Deserved Promotion for Mr. Firth, . 116
Development of Play-ground Idea, . 162

Disappointment Turned to Rejoicing, 91
Don'ts for the Public, 139
Does not Deserve Scolding, 50
Ernest H. Vaughan, City Solicitor, 225
Features of New Automobile Law, 140
First Swim, Then Paddle, 159
For a Permanent Exhibition, 246
For Abolition of Billboards, 7
For Education of Employees, 28
For Express Parcel Service, 5
Fortune in Farming, 202
Gave His Country Pure Food, 159
Going After Business, 139
Good Intentions go Wrong, 138
Governor Folk's Advice to Merchants, 183
Governor Guild's Flat-footed Stand, 137
Graphic Story of a Vacation, 160
Growth of the Electric Sign, 227
Growth of Socialism, 248
Had Active and Honorable Experience, 201
Home Architects are Recognized, 114
Honorable Eli Thayer and Oregon, 25
How Property is Assessed, 47
How to get Business, 30
Honor to Soldier and Jurist, 157
Important Railroad Matters Adjusted, 183
Increase of Salary for Mayor, 5
Instruction in City Government, 248
Interesting Paper by John R. Back, 245
Invented the Monkey-wrench, 158
Keep Vacant Lots Clean, 160
Kindle Fire with Fire, 4
Limiting Assignments of Wages, 70
Light on Worcester's Finances, 70
Littlefield Pleads for Worcester, 51
Made in Worcester, 96
Manufacturing Figures of Comparison, 116
Massachusetts Mercantile Census, 95
Mechanics Hall is not a Death-trap, 224
Medical Inspection in Public Schools, 4
Medical Inspection in Public Schools, 161
Meeting for Temperance, 26
Memorial Gate at Elm Park, 179
Merchants' First Banquet, 30
Mr. Logan on the Past and Present, 138
Mr. Marble on Railroad Rates, 71
Municipal Ownership in Canada, 228
Not a Commercial Benefit in Boston, 184
Oarsmen Want a Bridge too, 181
Odd Fellows Have a New Temple, 245
Ohio Man for Board of Trade Banquet, 73
Political Pendulum Swings Back, 3
Portland Likes Our System, 180
Power for Commerce Committee, 48
President of Board of Trade, 113
Private Citizen and Public Schools, 114
Professor Parsons' Fifteen Reasons, 71
Provides for Marked Improvements, 158
Put to Common Sense Test, 206
Railroads not yet Ready, 136
Receives Benefits from Carnegie Fund, 184
Recommends Industrial Commission, 118
Residence, Hotel, Church and Bank, 223
Respect for the Boys' Laws, 52
Revival of New England Lyceum, 74
Savings Banks and Industrial Insurance, 227
Sees no Danger from the Rich, 116
Signal Value of Worcester's Future, 8
Subscription from Board of Trade, 93
Sure Indication of Industrial Peace, 8
Take Time and get the Best, 204
Taking Long Chances with Water Supply, 118
Tax Rate goes still Lower, 182
Tendencies in Public School Administration, 26
The Age of Investigation, 182
The Billboard Agitation, 29
The Citizen and the Fire Department, 203
The Laborer and the Public Schools, 180
The Man with the Muck-Rake, 93
The Right to Work, 92
The Uses of Green Hill Mansion, 161
To Bar Teachers from Voting Contests, 228
To Beautify their City, 93
To Drive out Itinerant Venders, 6
Trade Schools a Necessity, 202
Trial by Newspapers, 161
Value of a Technical Education, 179
Vice-Consulate for Worcester, 72
Want Free Alcohol 49
What a Board of Trade Can Do, 94
Will not Destroy Architecture, 69
Worcester Academy's New "Megaron," 6
Worcester Advertised by its Festival, 225
Worcester as a Convention City, 226
Worcester as a Way Station, 226
Worcester County Indian Names, 92
Worcester did its Part, 159
Worcester Gets Two More Representatives, 184
Worcester's Helping Hand Extended, 96
Worcester's Manufacturing Census, 94
Worcester's Savings Bank's New Home, 52
Worcester's Tributes to the "Talking Toy," 204
Worcester's Year of Prosperity, 5
Year of Increase in Building, 28

Medical Inspection in the Public Schools, by J. L., 167
New Electrical Laboratories at Worcester Polytechnic Institute, 124
Our Social Unrest, by President Carroll D. Wright, 147
Power Possibilities of the Future, by Professor Elihu Thomson, 36
Prosperity of a Nation, 193
Public Schools and Women Workers, 86

Reasons for a Board of Trade, ... 129
Senator Lodge on New England, ... 84
Tendencies in Public School Administration, by Professor U. W. Cutler, . . 41
The Citizen and the Fire Department, ... 209
The Hydraulic Testing Plant of the Worcester Polytechnic Institute, by Levi P. Conant, 97
The Private Citizen and the Public Schools, by Professor George I. Alden, . . 119
Trade Schools Necessary to Industrial Education, by M. P. Higgins, . . . 229
Value of a Technical Education, by Honorable Charles G. Washburn, . . . 185
What a Chamber of Commerce Can Do, ... 215
Worcester County Indian Names, ... 102
Worcester Music Festival of 1906, ... 188
Worcester's Future Water Supply, by Frederick A. McClure, ... 174

THE WORCESTER MAGAZINE

Vol. IX. JANUARY--1906 No. 1.

Magazine and Municipal Comment.
Evolution of Transportation Methods.
An Epoch-making Year.
Campaign for Rural Progress.
Board of Trade Notes.

DEVOTED TO

Good Citizenship and Municipal Development

PUBLISHED MONTHLY BY THE BOARD OF TRADE
WORCESTER, MASSACHUSETTS,
U. S. A.

$1.00 A YEAR. 10 CENTS A COPY

CENTRAL SUPPLY CO.

Steam and Gas Supplies

Wholesale and Retail

Wrought Steel
Cast Iron
and Brass

PIPE

All Weights
and Sizes
1-8 to 24 in.

Automatic Sprinklers

Brass *and* Iron Fittings

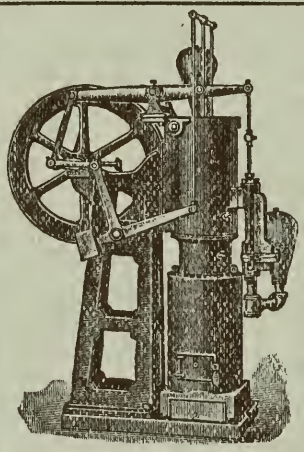
Tanks

Inspirators

Injectors

Traps

Hand *and* Power Pumps



Ericsson Hot Air Engines

Oil Filters

Wind Engines

Brass *and* Iron Valves

Towers

Pipe Tools

Railing Fittings

Pipe Covering

Hose, Etc.

The Leading Makes of

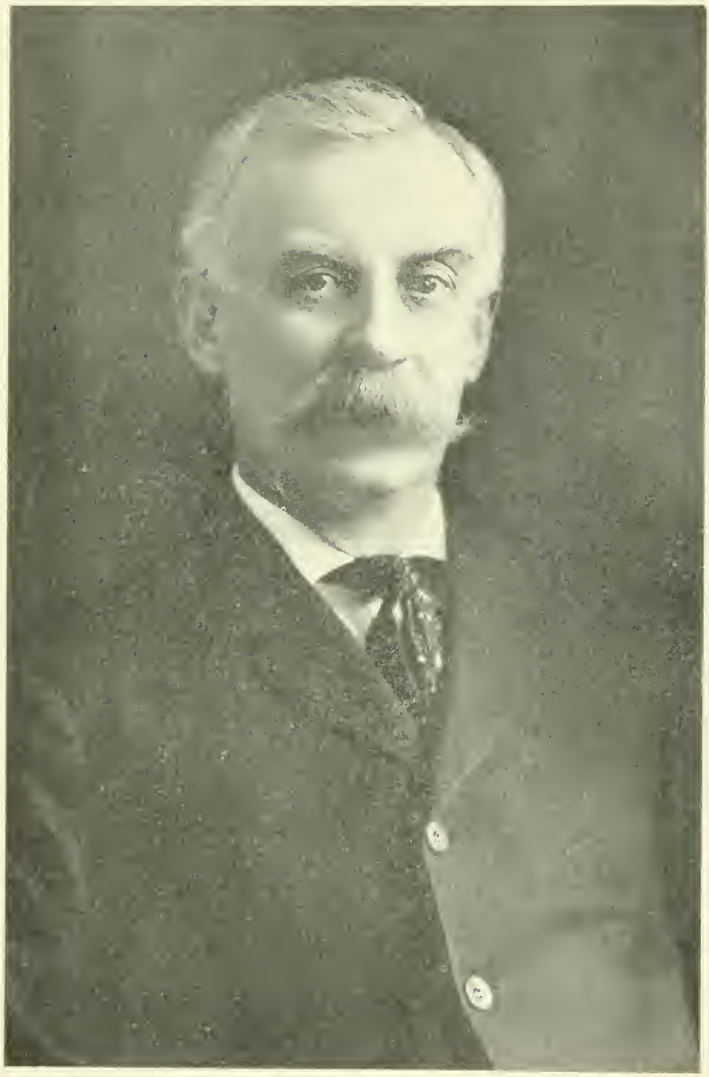
Steam and Hot Water Heaters

Radiators of all kinds and sizes

Send us your address and receive estimate (free) from responsible fitter for heating your home, store or factory.

Pipe cut to sketch. Complete Steam, Automatic Sprinkler and Heating Outfits. Pumps and Pumping Appliances of every description.

35 and 37 Waldo Street
WORCESTER, MASSACHUSETTS



HON. JOHN T. DUGGAN, MAYOR OF WORCESTER.

The Worcester Magazine.

VOL. IX. JANUARY, 1906. NO. 1.

This magazine is published by the Worcester Board of Trade. Its reading pages are devoted solely to municipal development, good citizenship and the business welfare of Worcester. Space in these pages is not for sale.

MAGAZINE AND MUNICIPAL COMMENT.

Political Pendulum Swings Back

The political pendulum in municipal politics has swung back to the democratic side, Dr. John T. Duggan, leader of the democracy in the mayoralty contest in December, winning his election by a plurality of 1,382 votes. This is the largest plurality a democratic candidate for mayor ever has received in Worcester and speaks well for the popularity of the candidate. Worcester naturally is strongly intrenched behind breastworks of republicanism, but occasionally many of them break away from strict party lines and scale the walls into the democratic camp. This was one of the years, several of the leaders bolting the nomination of Dr. Melvin G. Overlock, who honorably secured the republican nomination for mayor of the city. There is no question that either candidate would have given a creditable administration, but a sentiment in favor of the democratic leader furnished him sufficient republican votes to make his election certain and by a plurality which reached the high water mark.

Dr. John T. Duggan was born in Worcester June 30, 1855. His boyhood education was received in Worcester's public schools. He afterward entered Holy Cross college and graduated from that institution with the class of 1880. In September of the same year he entered Bellevue Hospital Medical College at New York and received his degree of M. D. from there in March, 1883, receiving the degree of A. M. from Holy Cross College the same year.

Dr. Duggan is a councillor of the Massachusetts Medical Society and for eight years has been chairman of the visiting staff of St. Vincent hospital, which position he still occupies. He was chairman of the United States Pension Board of examining surgeons for six years. He was elected a member of the School Board from Ward 5 in 1891 and served twelve continuous years, declining to accept another nomination at the end of his term in 1903. His services on the School Board were highly valued by his colleagues of both parties, and the public school system of this city owes much of its present efficiency to this good counsel and judgment during the dozen years of his official connection with it. He was vice-chairman of the committee for two years; was chairman of the committee on teachers; member of the finance committee; of the high school committee and the committee on high school accommodations.

Dr. Duggan's home life gives a good illustration of the domestic scenes of which President Roosevelt so much ad-

mires. He is the happy father of eight children, seven of whom are living, six boys and one girl. Two boys are graduates of the high school and one of them is now a student at Holy Cross. An interesting family when gathered around the supper board; father, mother and seven children.

Bancroft Hill for Public Park

The Worcester Board of Trade has taken the initiative in securing for the public park system Bancroft Tower, Hill and Oak Grove, which skirts Massachusetts Avenue, Drury Lane and Park Avenue and a part of the estate of Honorable Stephen Salisbury. Under his will this property comes into the possession of the trustees of the Worcester Art Museum as the residuary legatee. As Mr. Salisbury during his lifetime had devoted considerable of his life and personal attention to the development of this park, which is a beautiful bit of nature, and erected a tower imposing in design, and had refused to sell any portion of it, there is no question in the minds of the trustees of the museum and the executors of his will that it was his intention to give this to the city. The petition from the Board of Trade directors brings the matter directly before the trustees, and it is reasonable to expect that they will consider it in the most favorable light. If taken under the care of the city it would be kept up as well as if owned by the trustees and as well as if Mr. Salisbury was living and giving it the same careful attention which was his custom during the years of its development. Whatever action the trustees may take in the matter it is the wish of the Board of Trade that the property be kept intact and beautified from year to year, and such arrangements made as should forever keep it open for the benefit of every man, woman and child in Worcester. This petition also carried with it the request that the tract of land on Grove Street adjacent to Salisbury pond and a part of Institute Park be also given to the city for park purposes, it being the expressed intention of Mr. Salisbury that this was his eventual plan.

Medical Inspection in Schools

At a recent meeting of the third Massachusetts conference of charities in Boston there was discussed a proposition which may not be adopted right away, but which is going to be a good deal in public discussion hereafter until it is adopted. The debate over medical inspection in the public schools is certain to bear pretty hard on the present lax way of letting contagious disease in school children go on, until it becomes necessary to shut up a school, until the epidemic has run its course. It can be said for Boston that this city has gone further than any other of the states, in having some sort of medical oversight for the children in public schools. But the work which Dr. Durgin has already done is rather that of a pioneer blazing the way, than a full and complete policy. The taxpayers ought not to be burdened too heavily, of course, but free medical attention is given in hospitals, and why should there not be some system by which there may be regular inspection of the eyes, for example, merely to make sure that no child is losing time through being unable to see the demonstrations on the blackboard; or some test of hearing, so that no deaf child may be punished unfairly for inattention or for stupidity, when the fault lies elsewhere?

Kindle Fire with Fire

Advertisement writers may profit by the following bit of advice which is quoted from a manual sent out to its salesmen by a large jobbing house: No great thing was ever accomplished, no great cause ever won, without deep conviction. First of all, then, you must thoroughly understand and appreciate the uses and the value of the product you are to sell. You must be convinced at the outset of the superior merit of our goods over any and all articles that are sold today. You must realize that the product is worth more than its cost. You must feel that you are really an ambassador of truth, education and enlightenment. You must be inspired with the conviction that you have the most valuable thing that was ever presented to the people. You cannot otherwise hope to inspire others, or cause them to believe it. Without fire you cannot kindle fire.

Increase of Salary for Mayor

The action of the city council increasing the salary of mayor from $2,500 to $4,000 has caused little adverse criticism. Worcester has made rapid growth in population and business interests in the past ten years and should require a man of exceptional business ability to manage its affairs. As the honor of being mayor counts for a great deal with many the financial consideration also carries some weight with it. Any man who has ability to guide the city's financial and business policy, for Worcester is a great business corporation, should be fairly well paid for it. To many such men $4,000 appeals no more strongly than $2,500, in fact the difference is not worth the consideration. The other action of the city council in refusing to pass an order providing for salaries for aldermen and councilmen is commendable. The proposition was that the mayor should be requested to petition the general court for legislation that would permit Worcester to pay aldermen $500 a year and the councilmen one-half that sum. This legislative act if granted by the general court was to provide for a referendum so that the voters of Worcester would be given an opportunity to pass upon it. Even if the order had passed the city council and been acted upon favorably by the legislature there is little doubt that the people would have rejected it. A city loses rather than benefits by having a paid city council. Boston is an illustration, and certainly conditions there have not improved since provisions were made for salaries for such officials.

Worcester is a great and growing city and the handling of her municipal affairs takes a large amount of the time of citizens serving as members of the city council, but Worcester has not reached the point where she cannot find able men who are willing to thus sacrifice their private interests for the benefit of the municipality. In far too many instances it has been found that the larger the salary paid to members of a city government the poorer the quality of the men elected. This is frequently owing to efforts made to obtain such places largely for the salary and perquisites thus to be acquired.

Worcester's Year of Prosperity

The New Year opens with Worcester's business at a prosperous height. Every kind of manufacturing plant is running to full capacity, extra hours are being worked in many of them, and the wave of prosperity over the city appears to be broader and more far reaching than any year in its history. The mercantile trade is also in the same flourishing condition. Altogether the Worcester manufacturer and merchant has reason to rejoice. The era of prosperity looks not to be temporary but permanent.

For Express Parcel Service

The suggestion of General Manager E. G. Connette of the Worcester Consolidated Street Railway Company, made at the Board of Trade smoke talk, for electric parcel express service has received the unanimous indorsement of the directors of Worcester Board of Trade. The merchants of Worcester, generally, would welcome such an innovation, as it would bring them in direct express communication with upward of twenty-five surrounding towns. This would mean a large increase in the wholesale trade of Worcester and would give the retailer opportunity to express goods by quicker method, three or four times a day, where now there is but one express and that the old-fashioned, slow method to many of the smaller towns of the county. The expression of the Board of Trade is contained in the following resolution adopted at the recent meeting of the directors:

Resolved, That it would be greatly to the benefit of Worcester in every way, and more especially in the line of retail trade, if parcel express service could be arranged with the suburban towns connected by electric car service with Worcester.

Resolved, That it is the desire of the Worcester Board of Trade that such service shall be arranged and put in force as soon as expedient.

Resolved, That a copy of these resolutions be sent to the general managers of the Worcester Consolidated, the Boston & Worcester, the Worcester & Holden and the Worcester & Southbridge, the Worcester & Blackstone Valley roads of the Consolidated Railway Co.'s system,

expressing the hope that favorable consideration will be given this subject and proffering the services and support of the Worcester Board of Trade.

To Drive Out Itinerant Venders

The Worcester Merchants Association has taken up the cudgel against itinerant venders. This class of dealers includes those persons who come to Worcester during the holiday season—or any busy season—and rent store room for a month or more for the sale of goods in direct competition with Worcester merchants. These sales are usually by auction and many thousands of dollars are taken out of the city in this way. The Merchants Association has the co-operation of the license board and a determined effort will be made to keep these itinerants away from the city. They are governed by a state law, but Worcester can keep them out if proper methods are used. Worcester merchants carry a line of goods as fully up-to-date as any city in the country, and the purchasing public should seek to help the Worcester merchant and not the itinerant.

Worcester Academy's "Megaron"

Worcester Academy, one of the most widely known schools in the country, has dedicated a new building which is called its "Megaron." It is unique in purpose, equipment and inspiring power to develop sound ideals of mind and body. This building has for years been the dream of Principal Abercrombie, and its realization, due almost entirely to his energetic and determined efforts, is a crowning glory to his twenty-four years of devotion to the school as its head. It is his most complete expression of his ideals of training boys, and of his faith in his own ideals.

Dr. Abercrombie in his welcoming address gave a clear idea of the purposes of this new building and the hopes of its builders. He said, in part:

"In ancient Hellenic life the palace of the king and noble had a megaron, or 'big room' or hall, like the hall of the feudal baron, frequented by the men of the family and their peers, where, apart from the women, stories of adventure and war were told among themselves or sung to harp accompaniment by the minstrel of the household, where the social life to be had in those primitive times was enjoyed. Here strangers were entertained. As far as I am informed the Worcester Academy is the sole possessor of a Megaron, and we are met to celebrate a restoration, if you will, but in terms of the needs and experiences of the twentieth century, to dedicate a building to the good fellowship, the truest friendships and the finest culture of the heart of American boys.

"Our Megaron is really in part a development of the ideals that should be found in the symmetrical training of youth. Not only rhythm, symmetry and dancing were included in the contest of music in the education of the Athenian boy, but athletics and normal physical training as well. The fine response of body to mind and of physical expression to soul was not only expected, it was also sought. This was the elementary philosophy of the education taught by Socrates and Plato in the groves of the olive shaded academy. Our Megaron is in connection with the gymnasiums. Through its spacious and appropriately furnished hall, the Megaron proper, the minds of the boys will be lifted to the inspiring associations of school life and to their noble uses and privileges. The deep meaning of the great word of the elder Cato, convivium, will be shown, the true living together with all its privileges and responsibilities during the immeasurably rich years of schoolboy life. Games and sports, a chat between friends, the softening influence of music, a moment of undisturbed reflection under the tranquillizing power of noble, refined environment, will rest a boy's mind, touch his true emotion, stir his fancy and throw the magic charm of imagination about his life at school. Aristotle's great maxim will be made possible, that physical training should be sought not for brute force but for good health, good health of mind and soul as well as of body. Worcester Academy under its able management now occupies a front rank in the educational world."

Pr. Carroll D. Wright for Mass. Tech.

The resignation of President Prichett of the Massachusetts Institute of Technology is of interest to Worcester, inasmuch as the name of President Carroll D. Wright of Clark College is prominently mentioned as a possible successor. With Col. Wright is associated the name of J. R. Freeman. Both these names are being discussed by the undergraduates of the 'Tech. The success of Col. Wright in all that he has set out to do is well enough known to Massachusetts men. His service to this state was the foundation of his career in national service, and when he was recalled to Worcester at the suggestion of the late Senator Hoar to take charge of Clark College, the choice was taken generally as the best that could have been made. There is some sentiment among 'Tech graduates in favor of having a 'Tech man as president. Mr. Freeman has not been a teacher at the Boston institution, but his connection with it has always been close, and as trustee and head of the alumni he showed always a very warm interest in the affairs and the prosperity of the Institute. The Massachusetts Institute of Technology has never yet had a president of its own graduating. It has taken two presidents from the Lawrence school at Harvard, one from the University of Virginia and one from Washington University in Missouri.

It is hard to compare the two men who are talked of for the successor to President Prichett because their work has been along different lines. Mr. Freeman is essentially an engineer and a manager of important financial undertakings. If he were to take the place he would unquestionably have with him and behind him some very powerful interests that could be counted on to do much for the prosperity of the institution. Of Col. Wright the Boston Advertiser editorially says: President Wright has had the experience as an educator that Freeman lacks. But Wright's experience in technical science is the minus quantity in his case. As to his ability to reach wise conclusions, his record in the arbitration of the coal strike of three years ago is, of course, fresh enough in the minds of most of the 'Tech men. The undergraduates feel a little uneasy over the question of athletics; but President Wright's rule against intercollegiate athletic contests at Clark College may have been made because of special conditions which existed there. It is not certain that, as president of 'Tech, he would forbid the students of the Institute to have any part in intercollegiate athletics around Boston.

For Abolition of Billboards

The agitation having for its ultimate result the abolition of billboards has taken a firm hold of Worcester. The 20th Century Club some time ago appointed a committee to consider the subject and has co-operated with the Civic League of Boston. The article in the December number of the Worcester Magazine on the "The Billboard Nuisance and Methods of Fighting it" by Henry Lewis Johnson of Boston, editor of Printing Art, has aroused considerable comment, and the sentiment in Worcester against billboards as advertising mediums is developing rapidly. A public meeting has taken place and committees from the Board of Trade and the various improvement societies have co-operated with the 20th Century Club in its movement against billboards. It is planned to give a lecture in Mechanics Hall early in the year, illustrated by 100 slides showing many billboards in Worcester. The spectacle of these slides will demonstrate to what extent they are a nuisance.

Crane for Important Committee

The appointment of Senator Crane of Massachusetts to the Interstate Commerce committee in place of Senator Millard of Nebraska has an important bearing upon the coming railroad legislation. Millard has probably occupied the most uncomfortable position of any man in the senate. He was elected as a railroad man and yet his state is one of the "hottest" for rate regulation of any in the country. He has kept severely quiet, but on this committee he would eventually have to speak, and the prevailing view was that while either course that he might take was risky he was liable to prove an enigma seeking the path which would lead him to safety, politically,

rather than the real interests of the party and the country.

The senate leaders look to this committee to do the real work of perfecting the details of a bill which will be satisfactory to the President, and at the same time command the solid republican support.

Senator Crane, with his large business experience and familiarity with what the conservative interests of the country want, and particularly those of New England, whose manufactured products going out into the West involve long hauls, seemed especially fitted for this place. His personal friendship with the president was also a desirable asset. Mr. Crane is looked to by the older men of the senate to perform an important work on this committee, and it is quite probable that he will be the intermediary between it and the White House as the details of the measure are taking final shape.

Indications of Industrial Peace

Saving deposits in a town are often cited as an indication of general prosperity. But they mean a great deal more. The New York Times has been studying savings deposits in New York state in connection with labor strikes and other industrial disturbances, and finds that growing deposits in banks of this sort are a sure indication of industrial peace. Deposits in New York state have grown $86,836,855 the past year. During the last six months the increase has been at the rate of over $100,000,000 for a full twelvemonth. The largest increase in any prior year was $71,000,000. It is known to everybody that there was no proportionate difference in the opportunities of wage earning. During the same period 165 labor unions dissolved—the membership in all fell off 17,414. The ratio of unionists in the state is 1 to 18. In England it is 1 to 22, in Germany 1 to 44, and in France 1 to 53. The latter country is held to be the most prosperous and thrifty in Europe, while Germany is more thrifty and stable than England so far as its savings bank population is concerned. The $1,500,000 spent in the great Tennessee coal and iron strike by labor unions, it has been demonstrated, came directly out of savings bank in mining districts. So, when the deposits in any locality are steadily growing it means something more than figures—it means staple conditions that ought to appeal to investors.

Signal Value to Worcester

There are a good many million Americans who consider that the best places to live in in this country are the cities of the second and third classes. It is argued, and plausibly, that a good town of about 200,000 population offers the most advantages to the most people. According to the census of 1900, we had 100 cities with a population exceeding 38,000. Of these, nineteen had from 100,000 to 200,000 people, eight had from 200,000 to 300,000, five had from 300,000 to 400,000, three had between 500,000 and 600,000, two had from one to two million, and one had 3,437,202. The social future of all these classes of cities is full of speculative interest. How interesting and satisfying is life going to be in them? How much will be done to make them profitable places of residence? The will of the late Stephen Salisbury, of Worcester, disposes of an estate of $5,000,000, of which $3,000,000 is given to the Worcester Art Museum. Various Worcester institutions get half a million dollars more of Mr. Salisbury's money, but this large bequest for the Art Museum is of the most signal value to Worcester's future as a place of residence. Worcester, with a population of about 120,000, is already a city of very interesting social and mental quality. We congratulate her on having assured to her citizens a permanent public collection of good pictures. Life in Worcester will be fuller, richer, and more profitable for Mr. Salisbury's bequest. We do not recall any other American town of her size that is so fortunate in its art prospects as she is. It takes a lot of money to stock and support an art museum, but three millions will do a great deal.—Harper's Weekly.

EVOLUTION OF TRANSPORTATION METHODS.

THERE is a potential desire in all human beings to move from place to place, and confinement in one spot is regarded in almost all human societies as direst punishment. The lowest forms of life are the stationary forms, like the Mollusks and Spongiæ, and when in a higher form of life the capacity of a very limited and an unchanging environment to produce sensations is exhausted, the organs cease to develop; change in environment will then either destroy or develop in either case, the human race for hundreds of years after the creation were content in the use of their natural means of moving from place to place, and human backs were the vehicles of burden. In some countries, even to this day, you see the humiliating spectacle of man reduced to a beast of burden. In China human beasts of burden are even now more profitable than pack animals over narrow and circuitous passes. In Southern China the long string of coolies bearing down from the hills tea-leaves in deep baskets slung on poles is a familiar sight; but among the more enlightened races of people, the carriage of passengers and freight on human backs was followed by the utilization of animals, which were used as beasts of burden, and afterwards as the means of motive power for drawing the crude and primitive vehicles of first invention, but it is a historic fact that there was but little progress in the modes and methods of transportation from the creation of the world up to the eighteenth century—a period covering nearly six thousand years. Sedan chairs were used for carrying passengers in the Oriental countries, and are yet used to some extent. In the cold regions, we find the Eskimo using dogs and reindeer for drawing their sleds, and in South America the llama was a favorite draft animal. Less than one hundred years ago the stage coach was the fastest and most improved method of overland travel for any distance and for the transportation of mail and light package freight.

It was on September 27th, 1825, that the steam locomotive made its debut as a substitute for the stage coach, the first public railway for steam locomotives being opened between Stockton and Darlington in England by Edward Peese and George Stephenson, an innovation which caused great excitement throughout England.

The first railway in America was the Quincy railroad, built to carry stone to Bunker Hill monument. All the first rail cars were run by horse power. The body of the stage coach furnished the model for the first passenger cars on a railway. The Veazie railroad, which began to run from Bangor, Maine, in 1836, had two locomotives of Stephenson's make from England; they had no covering and burned wood. The coaches carried eight people; the train ran about twelve miles in forty minutes; the rails were of strap iron, spiked down; these spikes soon rattled loose, so each engineer carried a man with a sledge hammer, who watched the track, and when he spied a spike running up, he would reach down and drive it home. The snake heads, as the rolled up ends of the strap iron were called, sometimes, were forced up through the cars and did great damage. The Boston and Lowell, Boston and Providence, and Boston and Worcester railroads were all open in 1835. Accidents were many on these early roads—some were fatal and some were ridiculous. The clumsy locomotive often broke down, and horses and oxen had to be pressed to drag the cars to the nearest station and repair shop.

The Boston Courier of June 27th, 1827, said in an editorial—"The project of a railroad from Boston to Albany is impracticable, as every one knows who knows the simplest rule of arithmetic, and the expense would be little less than the market value of the whole territory of Massachusetts, and which, if practicable, every person of common sense knows, would be as useless as a railroad from Boston to the Moon." Captain

Basil Hall rode by stage coach in 1829 over the present route of the Boston and Albany railroad; he described the hills, ravines and rivers, and said: "Those Yankees talk of constructing a railroad over this route; as a practical engineer I pronounce it simply impossible."

Among the pioneer steam railroads, and the first in the state of New York, ran between Albany and Schenectady, and the first locomotive used on this road was the famous old relic the "Dewitt Clinton." To compare these antique models of seventy years ago with the Empire State Express, running sixty miles per hour, or the Twentieth Century Limited, one of the most palatial trains in the world, drawn by an engine and tender weighing 286,000 pounds, the progress seems almost incredible and is most marvelous, and stamps the nineteenth century as the century of mechanical development, especially in the matter of transportation facilities.

The development of the methods used for water transportation have kept pace with overland methods. Among the primitive tribes of people, various devices were adopted for plying the streams, some on the borders of Mexico, in Peru and several localities in the Eastern continent tie bundles of reeds together in floats. In August, 1807, Robert Fulton completed the first steamboat, and it steamed out of the shipyard of Chas. Brown in the East river; she was named the "Clermont," but the people of New York called her "Fulton's Folly." The Clermont was a schooner-rigged boat of a hundred and sixty tons and had a cylinder measuring twenty-four inches in diameter with a four foot stroke; the paddle wheels revolved amidships with no box or covering; dry pine was used for fuel, which sent forth thick black smoke with flames and sparks leaping high above the single funnel, which gave the ship a terrific aspect and spread terror among the superstitious watermen. On Aug. 11th, the Clermont made her maiden trip up the Hudson to a point near Albany; it was a voyage of 110 miles and took twenty-four hours. Soon thereafter she was running as a regular packet between New York and Albany.

The first ocean steamer crossed the Atlantic from Savannah to Liverpool, in 1819, and when we compare the ocean greyhounds of the present crossing the Atlantic in less than six days, with the voyage of Columbus, with his three little sailing vessels, leaving Palos in Spain on August 3rd, 1492, and landing on the island of San Salvador on Oct. 12th, seventy days en route, we are appalled at the progress, but when we realize that this progress has taken place also within a period of seventy years, it is equally as marvelous as the evolution in the mode of land travel.

The horse car for passenger travel in cities and suburbs was not used for several years after the advent of the steam railroad. Stage coaches and wagons of various kinds were used as the only modes of street transportation. There is a legend that the first street railroad built in the United States was on Fourth Avenue in New York. It proved a failure, and there were no more ventures in this direction for, perhaps, twenty years afterwards, when the Sixth Avenue railroad in New York was built, and there seems to have been instituted, what our ancestors of that time must have fondly believed to be a boom in railroad construction, for some six railroads were built between 1850 and 1855; about 30 between 1855 and 1860; more than 80 between 1860 and 1870, and so on in a quickly increasing ratio until the present time; and the rapid growth and development of this enterprise reminds us that necessity is the mother of invention. We had at first the bobtail car, of which most of us have a distinct recollection; shortly afterwards the demand for more convenient and adequate service resulted in a larger horse car drawn by two horses, with better roadbed and facilities, such as would enable more rapid transportation. This did not suffice, and the cable car was introduced in some of the larger cities, but owing to the enormous expense of construction and operation, it was practically only available in the very large cities. Then a small steam engine called the "Dummy" made its advent, but only lasted a short time, because of the noise, smoke and large cost of operation, and along in 1887 and 1888, rapid strides were made in the development of electricity as a motive

power. Various kinds of apparatus were tried; among the first, the motor was placed on the platform of the car, connecting with the axle with a sprocket chain, similar to a bicycle. In 1889, the Thomson-Houston Company and the Sprague Electric Company turned out the first commercially practicable motor for street car propulsion, and the development for the last decade has been marvelous, indeed; in fact, the electric motor seems to be destined not only for the power to operate our Urban and Inter-urban traffic, but ere long we will likely see it as the power that moves the commerce of the world.

We note with special interest the development of electricity as a motive power to supplant the use of steam locomotives as illustrated by the recent arrangements of the New York Central & Hudson River Railroad Co., to install an electrical system for the movement of all passenger trains on their Hudson division as far as Croton, about 34 1-2 miles from the Grand Central station; also on the Harlem division as far as White Plains, about thirty-four miles from the Grand Central station. The local service will be handled by trains from four to six cars, each car will probably be equipped with two motors of about 200 horsepower each, while through passenger trains will be handled by electric locomotives, thirty of these locomotives have been ordered. They will weigh about 90 tons each, and will be equipped with four gearless motors, about 550 horsepower each, giving a total of 2,200 horsepower per locomotive. Each of these locomotives operating on a 600 volt circuit can haul a 500 tons trains, at a speed of 60 miles per hour.

It is also interesting to note the rapid growth of electric roads throughout the country, as shown by statistics furnished in the report of the Department of Commerce and Labor on Street and Electric Railways, showing the following comparative summary, 1902-1890:

	1902.	1890.	P.C. of increase.
Length of Line Miles	16,651.58	5,783.47	187.9
Length of Track Miles.	22,576.99	8,123.02	177.9
Cost of Consturction and Equipment	$2,167,634,077	$389,357,289	456.7
No. of Employees	140,769	70,764	98.9
No. of Fare Passengers...	4,774,211,904	2,023,010,202	136.0

The progress in Rapid Transit facilities for Urban and Inter-urban traffic during the last decade has created a very large economy, due to the greater average speed of transport. In order to arrive at this economy, we must assume values for two quantities not accurately noted—the average length of travel and the average difference in speed between horse and electric cars. We will assume one mile as the average haul and four miles per hour as the difference in speed between horse cars at 6 miles per hour and electric cars at 10 miles per hour; approximating the total number of passengers carried by electric cars at twelve millions per day, at 6 miles per hour, each passenger would be on the horse car 10 minutes; on the electric car, at 10 miles per hour, 6 minutes, or 1-10 of an hour. The total economy in time, therefore, is .066 hours per passenger, or a total of 792,000 human hours per day.

We approximate the money value of this time, as follows:

The persons engaged in what is called "Gainful Occupations" constitute about thirty-five percent. of the total population of 45 percent of all those over 7 years of age; estimating the average daily wage at 50 cents, and the duration of work 8 hours, the money value of a man hour is 6 1-4 cents, using the term "man hour" as covering only those who are able to work. In the 792,000 human hours per day, above stated, there are, it appears, therefore, 45 percent. of man hours, a total of 356,400. These figures at 6 1-4 cents per hour gives a total money value in time saved by electric cars over horse cars of $22,275 per day.

There are other elements of saving which can not be rated in money value; for instance—the time saved by the other 55 percent. of the community, who are not engaged in "Gainful Occupations," as school children, ladies shopping and marketing for the family, and it would appear fair to say, that the time saved to them is, at least, worth something, even if it can not be expressed in dollars.

Another factor of economy is in the increased comfort afforded by the improved electric car as compared with the former horse car. The public now demands cleanliness, light and comfort, which were impracticable before, and in securing these with electric service, as well as securing long rides for the same fare, they have received greater value for the same investment of a five cent fare.

While the development of electricity as a motive power has been very rapid within the last few years, there is yet a large field for further development, in the handling of express and package business. This feature has been developed beyond the experimental stage in some of the Western states, especially in New York, Ohio and Indiana, and is now considered almost as indispensable for the inter-traffic communication between cities and villages, as the use of the telephone. This subject should interest the Board of Trade of the City of Worcester, because this city is situated in the midst of a large number of hamlets, villages and small cities, all of which are connected with electric lines diverging from the City of Worcester, and a convenient, quick express electric service, operated over all inter-urban lines leading out of Worcester to these clusters of population will stimulate and enlarge the business of the City of Worcester. A merchant in one of these suburban places can order a shipment of goods from a jobber or manufacturer in Worcester to be shipped by the Electric express, and can receive the goods within a few hours after he has placed the order, thus enabling him to replenish his stock quickly, and to carry a less quantity of goods in stock; whereas under present conditions it is quite likely that these country merchants do most of their buying in the City of Boston, requiring perhaps two or three days' time before their goods are received after the order is placed, it being almost as easy to secure shipments of goods from Boston as it is from Worcester. An Electric Express will change these conditions, and will under ordinary conditions divert the trade which now is going elsewhere, and give it to the merchants and manufacturers of this city. It also affords an easy means of bringing produce, milk, butter, eggs, farm products, etc., to the city. In some places the Express Service is so operated that a person living in the country can give an order to the conductor of an express car for a bill of goods to be purchased in the city. The goods are purchased on the arrival of the car, and are delivered C. O. D. on the next trip. Sometimes these orders are given to the agents of the Electric Express in the different villages and cities. The orders are telephoned into headquarters in the city, goods are purchased, and sent out by the next trip of the express car, and delivered C. O. D.

In some of the states the Electric Express has been the means of changing the methods of industry in the agricultural districts, and instead of raising the usual products of corn and wheat, the farmers have found it more remunerative to cultivate garden products, because of the quick and easy access of delivering it to the market by means of the Electric Express, and have thus increased the earning capacity of their farm lands more than double in some cases.

The Board of Trade are doubtless familiar with the fact that wagon trains are still being operated between Worcester and the suburban towns and villages, the antique methods of years ago.

Some may question the development of Express Service because they confound the word "Express" with the word, "Freight." I desire to draw a distinction between the question of handling freight and handling express matter. I would not for a moment, advocate as a representative of the Street Railway Company, or as a citizen, the hauling of freight cars through the streets of Worcester, but the handling of express cars which are built on the same plans and along the same lines as passenger cars, operated under the same conditions, with no additional burden on the streets whatsoever, is a different proposition. The operation of an Electric Express radiating from the City of Worcester to the contiguous clusters of population, which surround the city within a radius of thirty miles, would stimulate and increase the volume of business which is

now done by the members of the Board of Trade.

A few years ago before the telephone was invented we got along without it, but at the present time it is found to be such an accessory to the business activities of the world that it has become an indispensable necessity.

At the present time Worcester is still enjoying the antique methods of handling a large portion of its business by wagon trains between the city and the contiguous villages and towns and the shipment of stuff by steam railroad trains. With an Electric Express Service, where two or three trips are made daily on the inter-urban electric lines, it would bring the business in close connection with this city, and the same results will be obtained as have been obtained in other states, that is, a large increase in the volume of business, and the express service would in time be as indispensable as the telephone.

You may say that I am merely talking for the interests of the Street Railway; from one point of view, I am, because if an Electric Express Service was started by the Street Railway Co., they would, of course, expect to handle the business with some profit, but the subject is certainly of mutual interest, so far as that is concerned to the farmer, merchant and manufacturer, and the man who has anything to buy or sell is as much interested in increasing his volume of business as the Street Railway Company.

There are several obstacles to be overcome before the service could be put into operation by the Street Railway Company, and it occurs to me that the subject is one which should receive the co-operation and support of the Board of Trade of this city, as Worcester is rich in its contiguous population, and it should be utilized to the best advantage.

E. G. Connette.

A BUSINESS MAN'S NEW YEAR ENDEAVOR.

To be joyous in my work, moderate in my pleasures, chary in my confidences, faithful in my friendships; to be energetic but not excitable, enthusiastic but not fanatical; loyal to the truth as I see it, but ever open-minded to the newer light; to abhor gush as I would profanity, and to hate cant as I would a lie; to be careful in my promises, punctual in my engagements, candid with myself and frank with others; to discourage shams and rejoice in all that is beautiful and true; to do my work and live my life so that neither shall require defence nor apology; to honor no one simply because rich or famous, and despise no one because humble or poor; to be gentle and considerate toward the weak, respectful yet self-respecting toward the great, courteous to all, obsequious to none; to seek wisdom from great books and inspiration from good men; to invigorate my mind with noble thoughts as I do my body with sunshine and fresh air; to prize all sweet human friendships and seek to make at least one home happy; to have charity for the erring, sympathy for the sorrowing, cheer for the despondent; to be indifferent to none, helpful to some, friendly with all; to leave the world a little better off because of me; and to leave it when I must, bravely and cheerfully, with faith in God and good will to all my fellow men,—this shall be my endeavor during the coming year.—J. H. Tewksbury.

AN EPOCH-MAKING YEAR.

1 Chronicles xvi. 8.—"Give thanks unto the Lord, call upon His name, make known His deeds among the people."

THIS text marks an important epoch in the history of the people of God. It refers to the bringing of the ark of the covenant from the house of Obed-edom to the city of David where the king had prepared a place for it.

The event was celebrated by national thanksgiving and praise. It was also a time of feasting, for the record has it that David issued "to every one of Israel, both man and woman, a loaf of bread, a good piece of flesh and a flagon of wine." If any one supposes that this is to be taken as a complete type of what may be literally enjoyed today, we answer let him wait for the issue of the substance from the hand of Israel's king.

The text more than intimates that we should look for the manifestations of God's thought and the goings of his power, without which we could not "make known His deeds among the people."

The question now is, have we been impressed with the conviction that God has been among His people for good this year; to work according to the majesty of His own will?

Circles, cycles and centers compose the machinery of the universe. Suns, moons and stars have their respective centers, and every center is both attractive and radiating. There must, therefore, be one all-sustaining center, and that center must move all things, being the center of gravity and the center of motion, and that center is God.

The highest reason can only be satisfied with such a conclusion. But God is good. He designs not simply because He is wise, nor creates because He is power, but because He is good. One of the most distinguished moral philosophers declares—"the universe is founded upon a moral idea." By the same loving Christ that hath redeemed us all things were created; and it is impossible to conceive of His doing anything for the creature He hath redeemed by His own blood but that which is for his good. Besides, we are assured that this world was made for man and not man for the world. This year now drawing to a close has been marked by special manifestations of His grace.

It has been a year of peace with other nations and of blessed peace within our own borders. God has given us the precious things of heaven and earth. "In the valleys our harvest have waved and the hills are covered over with corn."

"It is He that hath filled us with food and gladness."

It is His loving providence that always insures our safety and in whom we live and move and have our being. For all we are profoundly grateful today. I could spend the time allotted to me in recounting such blessings, and in talking of the prosperity that takes account of bank notes, bonds, stocks and bushels of wheat; in health and vigor, in increase of goods, unbroken family circles and unsundered friendships.

But there is this year more than these that press for utterance and that command us to speak. This has been an epoch making year. It has changed the map of the world. It has turned the current of history into a new channel and from one or more of its events will historians of the future fix their dates. God constructs the machinery of events somewhat as we make clocks. In these all the pinions and pulleys and powers are packed in behind the dial plate.

We see the pendulum swinging; in intervals of outward silence we may hear the metallic tick, but only with the passing hour do we hear the bell strike. All is the result of invisible power. So it is in the working of God. The pendulum of His providence is constantly swinging into view. The quiet ticking of the divine movement may be heard in the intervals between such panics and revolutions as have hushed the noisy nations into quiet waiting on God, but only now and again by the coming of a new era or

a reformatory epoch has the bell been heard to strike. It was heard by the voice of pentecost, by the thunder that shook in pieces the ships of the Spanish Armada, and again at Waterloo, and at Appomattox; and again and again by such revolutions as have brought liberty to millions in bondage and put constitutional freedom in the place of tyranny and despotism. The apostle Paul with some such thought in mind said: "See that ye resist not Him that speaketh. For if they escaped not who refused Him that spake on earth, much more shall not we escape if we turn away from Him that speaketh from heaven. Whose voice then shook the earth; but now He hath promised, saying, yet once more I shake not the earth only, but also heaven." (Heb. xii, 25-26.)

This is an epoch-making year. The clock has been heard to strike.

Three events will occupy our attention. Leading up to the first let me say that God has put immense powers upon some men. No school of philosophers discovered America; but one man, Columbus. No association of scientists revealed the hidden law that holds in equipoise the planetary system and controls the march of worlds; but one man, Galileo. No parliament saved England from her distracted councils, but one man, Pymm. No army with terrible banners rescued Scotland from the grasp of religious bigotry and intolerance, but one man, John Knox. So it is that a "divinely gifted man" may become the "pillar of a people's hope, the burden of a world's desire." With this in view I make no apology for saying that, in my judgment, the inauguration this year of President Roosevelt was an event that opened the way to realizations which have already lifted the nation to a higher plane.

If it be objected that he was president three and one-half years before, we answer that for that time he was pledged to the carrying out of a policy not entirely his own. But from March 4th of this year he was able to form plans of his own and to command respect for his own will.

Thank God for a president who commands the respect and admiration even of his enemies because he will act from principles and convictions all his own.

I know many looked askance when he invited Booker T. Washington to the capitol and dined with him at the White House; when they heard of his hunting lions in the western mountains; when he went down to the bottom of the mountains in the depths of the sea; or ventured into the region of contagion and then out into the storms of ocean that swept the coasts with terrible destruction.

But this only proves that we have a great leader who acts more from a constraining power within, than from a restraining power from without.

Again, some men feared the precocity of his youth, because several years younger than the youngest of his predecessors in the presidency. But do we remember that he was eight years above the minimum prescribed by the constitution? And how does he compare with other rulers? When entering upon his office last March he was nineteen years older than the younger Pitt when he became prime minister of England. Eight years older than Gladstone when he entered the same office, eight years older than Napoleon, when as first consul, he became the dictator of France, and Alexander the Great after conquering the known world died ten years younger than President Roosevelt. But I need not speak in this direction further, for time enough has elapsed to reveal the fact that he has sufficient caution and conservatism to take hold of great problems at the right end, and enough courage and wisdom to work for their solution.

He is our first preacher president; using the word not in a technical sense. Several times he has taken the place of the minister and spoken of religious life and duty. Before Catholics he has emphasized the element of true religion and patriotism; and before Protestants he has emphasized the duty of assimilating European immigrants to our Christian civilization.

His type of religion is, perhaps, not that of John Quincy Adams the Unitarian, nor of Benjamin Harrison the Presbyterian, nor of William McKinley

the Methodist, nor James A. Garfield the Disciple, but it is so unmistakably sound on fundamental principles that we are sure he can be trusted to speak of religious liberty and loyalty anywhere.

Not long ago "Life" in a striking cartoon was not far amiss in picturing the president riding forth with Bible under his arm, armor on his breast and a broad-brimmed hat on his head, a sort of twentieth century Puritan. But whatever may be said of the type of it; how can we be sufficiently grateful for one who by the force of his high position and great Christian character has inspired the manhood of the country with high ideas of the value of principle, of righteousness and true courage. By such influence every man will count for more, and the weakest will have a better chance. How can we place too high an estimate upon man as man. We see stamped upon his noble form, glowing in his intellect, breathing in his moral nature the lineaments, the glory and the spirit of divinity, and no matter whether he comes forth attired in the robes of earthly royalty or in the shaggy garb of honest industry, whether he reposes under the canopy of wealth or struggles in the meshes of inextricable want, whether he be adorned with the highest polish of education or rude with the uncultivated instincts of a neglected nature; under all circumstances of rank, of fortune and of education we see written upon him as with the finger of revelation his inherent greatness and his high destiny.

The second event to which I call attention is the "Peace of Portsmouth." The importance and far reaching results of that compact of peace no man can measure or foresee. But of one thing we are sure, that in the end it was a victory of moral rather than of physical force. It was a triumph of character over generalship and diplomacy. If ever God's hand was visible in the affairs of men it was here. Numa Pompillius, for the love of peace and to recommend it, altered the beginning of the Roman year. It formerly began with March (which Romulus had appointed because he loved Mars, the god of war.) But Pompillius changed it to January because he loved Janus, the god of peace. But no changing of the limits of time or the names of seasons which blind fancy hopes may please an idol is sufficient. Most fearful wars have been waged since the days of Pompillius. The change needed was a moral one, wrought by the spirit of God on the hearts of men.

The angel that hovered over Portsmouth was the angel that cried aloud at the coming of the Prince of Peace to Bethlehem, "Glory to God in the highest and on earth peace and good will to men." It has been truly said by one capable of judging that the responsibility for continuing the war with Russia after the commission met, rested with Japan. The decision to withdraw the demand for indemnity, showed that Japan could rise above the war frenzy, and the elation of victory into a judicial frame of mind.

But we do not forget that this affair of Asia was settled in Christian America. Columbia stretched out her hands in the name of the Prince of Peace and sought to reconcile the opposing forces. It was not the authority of the presidential office so much as the moral sentiment of a mighty people speaking through their highest representative. Thus it is that our hearts go out to God today in profoundest gratitude.

The third event is the Inter-Church Conference on Federation, recently held in New York city.

Five hundred delegates from twenty-four different denominations, representing eighteen millions of communicants meeting in God's name to find a basis on which they might work together for the moral and spiritual betterment of society and the salvation of the world marks an epoch which the future historian of the Church of God must remember. Its working body was composed of college presidents, theological professors, bishops, deans, eminent laymen, U. S. senators and chief justices and distinguished ministers from every state in the Union and from all the cities and great centers of population.

The banner over them was the banner of good will in all things, in essentials, loyalty, in non-essentials, liberty and in all things charity. And the spirit that inspired them was the spirit of unity and conscious waiting on God.

Mistakes may have been made and occasion for criticism given, but ought we not to rejoice that so many representatives of the different denominations could come together and for a little while say nothing of their differences and agree to magnify their agreements? Once the disciples of Jesus complained saying, "Master we saw one casting out devils in thy name and we forbade him, because he followeth not with us," but Jesus rebuked them, saying "there is no one that shall do a miracle in my name that can lightly speak evil of me, forbid him not."

Why should we not all rejoice if sectarian devils are cast out? Fifty years ago a meeting like this with so many of differing faiths would have been impossible.

Oh, how foolish we have been in our divisions. An Episcopal bishop on the platform of the Conference said, as he spoke of the creedal distinctions, that instead of being on our knees so often praying God be merciful to us miserable sinners, we should be occasionally on our knees praying God be merciful to us miserable *fools*. When we think of the little things which have divided us we have cause for shame. Well, the great object of the meeting was not to form a common creed, or to agree on a form of government or of worship; but to find a basis of work on which all who acknowledge Christ as God and King might work together for the elevation of mankind; for civic righteousness, for temperance, the restoration of the Bible to the public schools and the moral and spiritual betterment of the world. Along all these lines we need and should have the united action of all Christians.

We have seen what such unions can do, by what it has already done in Philadelphia, Pennsylvania, and in Ohio. Never until this year have the politicians acknowledged that there could be any such thing as a *church* vote.

A basis of work is what is wanted. We have comity. There was a time when we did not have that. The next step is federation and bye and bye organic union. My belief is that we will be worked together rather than argued together. Doing is the way of knowledge. "He that will do His will shall know of the doctrine." Doing is the way of happiness. "If ye know these things *happy* are ye if ye *do them.*"

Doing is the way to glory everlasting. If in the end it can not be said to us "well done good and faithful servants" what is to become of us? The greatest of poets says the "path of duty was the way to glory."

Well, in all these events and their visible results we have great reason for thanksgiving today. Besides in all we have the prophecy and the promise of yet larger realizations for our blessed country.

We must never forget that the foundations of our national life were laid in the spirit of loyalty to the will of God.

To this we owe our prosperity and power; and if we continue to be loyal to God and to build in the spirit in which our fathers builded who can foretell the prestige and power of our beloved country?

Thou too, sail on, O ship of State!
Sail on, O Union, strong and great!
Humanity with all its fears,
With all the hopes of future years,
Is hanging breathless on thy fate!

Our hearts, our hopes, are all with thee;
Our hearts, our hopes our prayers, our tears,
Our faith triumphant o'er our fears,
Are all with thee, are all with thee!

REV. J. M. VANHORN, LL. D.

CAMPAIGN FOR RURAL PROGRESS.

THE subject of rural progress is one that is of special interest to Worcester as it is to every city. A relief from the monotony of city life is found in rural development.

Since I have come East many men have said or given the impression to me that New England agriculture is in a very bad way. We cannot deny the presence of the rocks, and that it is a rocky and stubborn and depleted soil. And that is a fact we might as well face, and also that for the past 50 or 75 years the New England farmer has been forced to the wall by the competition of the western farmer.

To my mind, the first and most important element of hopefulness is the New England market. There is scarcely anything to equal it in the United States. You have at your doors a market made up of the very best nations and consumers who cannot get some of their supplies from a long distance.

There are in New England three and a half million people living under urbane conditions, all of them practically non-producers of the soil, and you have of all this large number, many of them well-to-do, with a high standard of living, and you have in these manufacturing cities the best class of consumers, the well-paid artisan.

Then we have all over New England increasing instances of good farming. I meet once in a while a man who is making a success of a small area of land, who can tell things that would startle many farmers of the middle West. Here is a case of a man with 30 acres of land, who a few years ago netted $6,000 from one year's work of that farm.

Another element of hope is that we have a ripe bearing country. We have a rapidly increasing number of young men born in the cities who have never farmed, but who are tired of the city, and who are seeking to get into the country, not for the purpose of sentiment, but for business. In our colleges we have an increasing number of applicants of this kind.

Then, again, another element of hopefulness is to be found in statistics. I have here made a comparison, based on the last census, between New England territory as a unit, because I believe New England ought to be regarded as a natural unit, and the state of Michigan. I have also made a comparison between New England and the state of Iowa, but the latter is hardly a fair comparison because I was told that 95 per cent. of Iowa land is tillable. Michigan has a little less area than New England. The upper peninsula of Michigan has an area as large as Massachusetts and Connecticut put together, but it is hardly touched by the plow.

The figures are: Landed area, square miles, in New England 62,000, in Michigan 57,500; number of farms, in New England 192,000, in Michigan 203,000; acreage in farms, in New England 20,500,000, in Michigan 17,500,000; acres of improved land 8,000,000, in Michigan 12,000,000; value of farms, in New England $64,000,000, in Michigan $690,000,000; value of farm products, in New England $170,000,000, in Michigan $147,000,000; persons engaged in agriculture, in New England 290,000, in Michigan 312,000; rural population, in New England 1,500,000, in Michigan 1,200,000; value of products, improved land per acre, in New England $20, in Michigan $12; granges in the state, two years ago, in New England 1,000, in Michigan 550, and members in the granges, in New England 100,000, in Michigan 40,000.

I have also made a comparison in figures of the condition of agriculture in 1880 as compared with what it was in 1900. Number of New England farms, in 1880, 207,000, in 1900, 192,000; acreage of farms, in 1880 21,480,000, in 1900 20,550,000; acres of improved land, in 1880 13,150,000, in 1890 8,135,000; value of products, in 1880 $103,345,000, in 1900, $170,000,000; value of products per acre improved land, in 1880 $7.86, in 1900 $20.80.

If there are any here who are resi-

dents of the city, business men, I want just a word with you. It seems to me, from the standpoint of a citizen of New England, irrespective of our occupations, it ought to appeal to you that New England agriculture is worth saving, and that it is worth something even in New England, with its preponderance of manufactures. In the first place, because it is of advantage to you to have New England farm products. You can never get the products from a distance that will compete with you on your own table, and it is of advantage to our artisans. From the broader standpoint, New England agriculture is worth saving, because it is important as an industry. As I understand it, the greatest group of manufacturing industries in New England is the textile group. New England leads the country in this respect. It is without a peer. And now, according to the 1900 census, the capital invested in the textile industries of New England was somewhat above $525,000,000.

In the same year, the value of the farms of New England was $640,000,000. In Massachusetts, according to the census, the largest single industry is that of cotton goods manufacture, in which is invested a capital of $156,000,000. And the same census gave, as the value of the farms, including buildings and live stock, of Massachusetts, $183,000,000.

The city of Boston is one of the seven or eight largest manufacturing cities of the United States, the largest in our great manufacturing areas of New England. The census of 1900 gave Boston 7,000 manufacturing establishments, which had a capital of $144,000,000, $40,000,000 short of the value of Massachusetts farms in the same year.

Then there is a social significance to this matter. There are 1,000,000 people still living on farms in New England, and I submit that any question that concerns 1,000,000 of our people, and I don't care how many you have in the cities or villages, industrially, socially, religiously, is a significant question, that you as citizens of the commonwealth and of New England, and in spite of the fact that the rural population of New England is not the major part, there is still coming from the New England farms a great stream of young men and women to the cities.

You who live here take great pains that the water supply of the city shall be pure from the source of supply to your homes. And you have reservoirs in the hills to make sure that it will not be contaminated all the way from the reservoirs to the houses. Is it any less important that you shall maintain in the hills of New England reservoirs of human character that shall send down their streams of people uncontaminated and pure?

We must have the mass of the people tilling the soil fairly prosperous, and that the rural community, moral, social, educational and esthetically, shall be a community to stay in, and not to be born in and get away from.

Now, what are the means and agencies at our command for this improvement? We must reach the individual farmer, for he is the key to the situation. I think in the use of these social agencies at hand, that there are three great principles involved. First, science, to find out the truth; second, education, disseminating the truth; third, cooperation, working together. And those three principles must govern in any attempt at real improvement which must be made effective.

What are the agencies to work out in these principles? New things may come up in devices. But there are several agencies at our command. First, the state; second, the schools; third, the volunteer organization; fourth, the church.

For instance, the state takes charge of the question of commercial fertilizers and sees that it is up to the proper grades. It has also taken charge of ridding the state of some of your pests.

One of the disadvantages which the farmer contends with is that he has not adapted himself, or rather his farm, to its best uses. Recently in Rhode Island a soil survey has been made, showing a great divergence in the soil of the state. There has been no attempt made to adapt the soil of the state to its best uses, and consequently there are thousands of acres that should be under forest, while

there are thousands more growing up into brush which should be made into poultry farms.

One of the fundamental things in rural progress is to know the facts. I would like to see every state work out a sensible, practicable survey of its territory, and I believe there is nothing more fundamental. If the state would authorize its board of agriculture to get an accurate survey of the state, make maps, and gain information that could be made use of by the practical farmer, and thus we would take a tremendous step in advance in bringing this rural progress about.

I can see no reason why the state may not try to induce people to settle on these lands. I know that that savors of what is done in the West. But I believe there are thousands of men in the middle West who want to follow a special line of farming, and have no capital, and who want to get near the large markets, who could be induced to buy our cheaper New England lands if they only knew about it. I have faith in it, but it must be based on intelligent ideas of soil and market.

Then there is the question of the farm labor supply. What objection is there to have the state act as a sort of clearinghouse in this matter, and see that the farmers are properly supplied. I don't believe our New England states will forge ahead as fast as they ought to until they take up some of the practical business sides of the question.

The country school must be as good as any school. In Massachusetts, I understand, you try to make it so. And, second, that school must be loyal to agriculture. The teachers' sympathies have not been in the rural community, so that the country boy was not taught in the rural schools. The schools must seriously take up the question of creating in the minds of the pupils this interest in the country, and teach the child the riches of the country life. We must introduce nature study, which must finally lead to agriculture study.

Then we must have a complete system of agricultural schools, which will give them a school training in agriculture for agriculture. We must have a system of agricultural schools all over the country, which shall fit boys and girls for farm life, and it shall be agricultural schools in the broad agricultural sense.

What we need most of anything in agriculture is not so much a larger number of men working in experimentation, but we need a group of college-trained, broad-minded, well-equipped young men on our farms, who are taking a leadership in showing that farming will pay, and also in rural improvement.

Then the college must keep in close personal touch with every man who tills the soil. The agricultural college is shorn of a large measure of its possible power, if it does not reach out a helping hand directly and immediately to the practical farmer.

Sectarianism is one of the worst foes of the country church. There are too many churches, and it would be far better if we had one strong church in a locality than two weak ones. I don't care what your religious views are, but if you want an ideal rural community, based on business sense, and neglect the function of the rural church, you have a very poor idea of the rural problem.

The time has come when the church should take hold of the country church, and investigate the conditions, and I believe the church is a function not only in trying to save individual souls, but in trying to bring about a better condition for the country church, and it is intimately related to all other elements of rural prosperity.

You cannot maintain a good church if you have a decadent agriculture. The church is a tremendous means not only from the standpoint of religion, but also of sociology. The country church must come to its own. It is regarded as a sort of laboratory for any young fellow out of the divinity school or an asylum for old pastors.

I have used the word campaign for rural purposes. My recipe is a conference in every town for rural progress, getting together delegates from the grange, the church federation, the improvement society and working the problem out as a whole, and not have the churchmen by themselves, and the

dairymen, and the preachers and the grangers. Such a conference might be held every year, and from the different centers of New England there might be a conference of all New England, so that the problem might be looked at from the whole point of view.

I want to make the impression upon you of the idea of making New England a center for rural progress.

I have the idea that New England is a natural unit, the soil and climate and market are similar. There is nothing to compare with your equipment in the United States and why not make use of it. Why not the agricultural colleges cooperate in understanding each other's work? And why not the granges and the boards of agriculture understand each other better?

KENYON L. BUTTERFIELD, A. M.

WORCESTER BOARD OF TRADE.

BANK BUILDING, 11 FOSTER STREET.

OPEN 8.00 A.M. TO 5 P.M. PRESIDENT'S HOURS: 1 TO 2 P.M. MONDAYS, TUESDAYS, WEDNESDAYS AND FRIDAYS.

PRESIDENT, HARRY W. GODDARD. VICE-PRESIDENT, PAUL B. MORGAN.
TREASURER, H. WARD BATES. SECRETARY, HERBERT M. SAWYER.

Directors.

IRVING SWAN BROWN,	H. W. GODDARD,	WM. A. LYTLE,	GEORGE F. BOOTH,
RUFUS B. DODGE,	CHARLES L. ALLEN,	WM. H. COUGHLIN,	IRVING E. COMINS,
PAUL B. MORGAN,	EDGAR REED,	GEO. B. BUCKINGHAM,	J. RUSSEL MARBLE,
ALFRED THOMAS,	JOHN A. SHERMAN,	GEO. T. DEWEY,	THOS. T. BOOTH,
JAMES C. STEWART,	PLINY W. WOOD,	REGINALD WASHBURN,	GEORGE F. BROOKS.

Clerk of the Corporation, CHAS. PERKINS ADAMS. *Auditor*, CHARLES A. CHASE.

Chairmen of Committees.

Advisory—Rufus B. Fowler. Membership—Edward B. Dolliver. Ways and Means—William H. Coughlin. Manufactures—Alfred Thomas. Meetings and Receptions—George F. Booth. Mercantile Affairs—Irving Swan Brown. Transportation and Railroads—Paul B. Morgan. Statistics and Information—Irving E. Comins. Arbitration—George F. Brooks. Legislation—Rufus B. Dodge. New Enterprises—James C. Stewart. Municipal Affairs—William A. Lytle. Taxation and Insurance—Reginald Washburn. Foreign Trade—Charles L. Allen. Publication—Rufus B. Fowler. Education—J. Russel Marble.

The Worcester Board of Trade wants to keep on file at the Secretary's office a complete list of places where floor space can be secured for manufacturing and business purposes. There are calls made every day for such information. The Secretary would appreciate it if every owner of a building in Worcester used for manufacturing or mercantile business would furnish particulars of what he has for renting purposes, and if land-owners would also file a list of available building sites. State owner, location, whether store or factory, amount of floor space, amount of power available and approximate rental. If it is land for manufacturing purposes, state owner, location, number of square feet, general dimensions, any building thereon; if so, give floor space, number stories, brick or wood, power plant with horse power, and purposes last used. Also give name of railroad near it and side-track facilities. Give price that can be used as basis of negotiation.

This information is for the use of the Secretary, and is not to be used for any purpose except to locate new or present business interests. No compensation is to be asked for any lease or rental that may be brought about by the Board of Trade.

Mr. James E. Patten, manager of the Protective Union, tendered his resignation as a member of the board, as he is to become general manager of the New England Grocery House, Providence, R. I. On motion of P. W. Wood, the name of Geo. T. Dewey was proposed and he was elected director to succeed Mr. Patten. The following resolution on the retirement of Mr. Patten was adopted:

Resolved,—That the Worcester Board of Trade regrets the departure from the city of Mr. James E. Patten, and feels that by his re-

moval to Providence, the city has lost a citizen who has ever been alive to the interests of Worcester; always courteous and honorable in his dealings with his fellow citizens, a business man who has been progressive.

The Worcester Board of Trade recommend Mr. Patten to the Providence Board of Trade as a wide-awake, energetic worker for good, and the secretary is instructed to forward a copy of these resolutions to the Providence Board of Trade.

The Board voted to coöperate with a committee from the Twentieth Century Club by giving its moral support to the movement for the abolition of bill-board advertising.

The question of railroad rates was taken up and discussed at length.

A communication from John Ball Osborne, chief of the government Bureau on Trade Relations, together with resolutions of various chambers of commerce, relative to the proposed creation of a corps of commercial attaches to American ambassadors and legations for the better promotion of our trade interests abroad, was referred to the committee on foreign trade.

A communication from William S. Dalliba, president of the American Chamber of Commerce at Paris, asking for resolutions in favor of reciprocity adopted by the American Chamber of Commerce in Paris, July 26, 1905, was referred to the committee on foreign trade.

A communication from the American National Expositions Company of New York, relative to export trade, was referred to the committee on foreign trade.

General manager E. G. Connette, of the Worcester Consolidated Street Railway Co., has presented the Board of Trade a large framed photograph of the first electric locomotive ever put into commission. It is one of thirty built for the New York Central Railroad to run between New York and Mott Haven. The picture is hung in the Board of Trade rooms and has attracted considerable attention.

The Worcester Polytechnic Institute Calendar for 1906 has just made its appearance in a very attractive dress. It contains characteristic views of the Institute buildings and grounds, with an embossed cover in the Institute colors. It is published by Mr. Mark Eldredge of the senior class.

A collection is being made at the Washburn Shops at the Tech. of different castings designed to illustrate the various causes which produce imperfections in the work. These castings are, as far as possible, all made from similar patterns, and they will show the straining or the swelling of the casting due to soft ramming as well as the effect of ramming too hard; the effect produced when a portion of the mould is insufficiently secured, that is, a "drop," and the effect of building up the joint between two parts so as to cause a "crush." The shucking of badly fitted flasks will be shown, the result of poor venting, defective gating, and the relation between the temperature and the molten iron and the size of gates will also have their illustration. The castings will also show the effect of particles of foreign matter in the mould, as well as the result of pouring the iron when it is too cold, and of pouring it intermittently. This exhibit is designed primarily for the benefit of the students and will be of great value to them in placing before them the various causes of inferior work.

The Committee of the Tech. Alumni Association on the new Alumni athletic field of the Institute, have recently taken an important step looking towards the development of the land which was purchased last June. Mr. Frederick Law Olmsted, of the firm of Olmsted Bros., landscape architects, has visited Worcester and had a consultation with the committee concerning the best methods for laying out the land. While in the city, Mr. Olmsted made a careful inspection of the proposed Alumni field, and it is hoped that he will be able to report at an early day upon the plans which he proposes to suggest concerning it. The Alumni Committee with which Mr. Olmsted held his conference consisted of Mr. Paul B. Morgan, '90; E. F. Miner, '87; and H. P. Eddy, '81.

The medal and diploma awarded to the Washburn Shops by the authorities at the St. Louis Exposition have been received. This is the highest award made for twist drill grinders, and it is the only award made to any educational institution for its exhibit of shop products. The diploma is 16x18 inches in size. It was designed by Will H. Low and reproduced by Gilbo & Co., in a sepia tint upon Imperial Japanese paper 21x24 inches in size. The diploma represents a young maiden typifying Columbia, who stands with one hand upon the globe, representing the territorial acquisitions, which is represented by her sister France seated at her right. In both its conception and execution the diploma is quite unusual considered simply as a work of art.

The department of electrical engineering at the Tech. has a collection of lantern slides now numbering over a thousand. These slides cover photographs of interesting electrical machinery and installations, as well as drawings intended for the illustration of lectures in the different courses in electrical engineering. The slides are all numbered and are filed and catalogued in such a way as to reduce to a minimum the time required to locate those on any particular subject desired.

The Washburn Shops have recently received a cable order for 16 drill grinders from St. Petersburg, and at the same time another order for similar tools from Japan. Orders have also been received from Italy, England, Austria and Germany within the past few weeks. One of these orders, from England, was for six large wet drill grinders, the style which received the highest award at the Buffalo and the St. Louis expositions. This is a machine for grinding drills under a constant flow of water, the water being raised by the centrifugal force of the revolving wheel without the use of a pump.

THE WORCESTER MAGAZINE

Vol. IX. FEBRUARY--1906 No. 2.

Magazine and Municipal Comment.
Eli Thayer and the Admission of Oregon.
Power Possibilities of the Future.
Tendencies of Public School Administration.
Board of Trade Notes.

DEVOTED TO

Good Citizenship and Municipal Development

PUBLISHED MONTHLY BY THE BOARD OF TRADE
WORCESTER, MASSACHUSETTS,
U. S. A.

$1.00 A YEAR. 10 CENTS A COPY

CENTRAL SUPPLY CO.

Steam and Gas Supplies

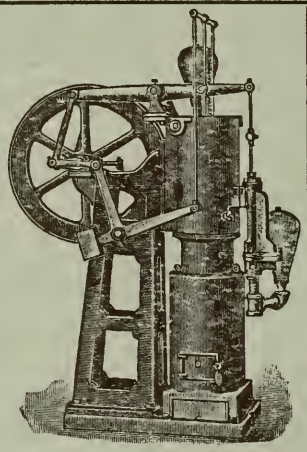
Wholesale and Retail

Wrought Steel
Cast Iron
and Brass

PIPE

All Weights
and Sizes
1-8 to 24 in.

Automatic Sprinklers
Brass *and* Iron Fittings
Tanks
Inspirators
Injectors
Traps
Hand *and* Power Pumps



Ericsson Hot Air Engines

Oil Filters
Wind Engines
Brass *and* Iron Valves
Towers
Pipe Tools
Railing Fittings
Pipe Covering
Hose, Etc.

The Leading Makes of

Steam and Hot Water Heaters

Radiators of all kinds and sizes

Send us your address and receive estimate (free) from responsible fitter for heating your home, store or factory.

Pipe cut to sketch. Complete Steam, Automatic Sprinkler and Heating Outfits. Pumps and Pumping Appliances of every description.

35 and 37 Waldo Street
WORCESTER, MASSACHUSETTS

NEW UNION STATION FOR WASHINGTON SQUARE.

The Worcester Magazine.

VOL. IX. FEBRUARY, 1906. NO. 2.

This magazine is published by the Worcester Board of Trade. Its reading pages are devoted solely to municipal development, good citizenship and the business welfare of Worcester. Space in these pages is not for sale.

MAGAZINE AND MUNICIPAL COMMENT.

Hon. Eli Thayer and Oregon

The Magazine this month prints the first section of an article on "Eli Thayer and the Admission of Oregon," which will be concluded in the March number. There is in preparation an autobiography of Hon. Eli Thayer, of which one chapter is devoted to his efforts in connection with the admission of Oregon as a state in 1859. It is a portion of this chapter which is used for the Magazine, and was prepared by Mr. Franklin P. Rice, the writer of the autobiography. The recent Oregon Exposition brought the name of Mr. Thayer prominently before the people of the United States, and in the Massachusetts building a picture of the Worcester Congressman occupied a prominent position in one of the entrance ways, and attracted considerable attention and much favorable comment. Under this picture was this inscription, "Eli Thayer, born in Mendon, Massachusetts, June 11, 1819; died in Worcester April 15, 1899. Founder of the New England Emigrant Aid Company, which saved the territory from slavery and the nation to freedom. Author of the Kansas Crusade. Member of Congress, 1859-1861. Through his determined actions Oregon was admitted a state of the Union in 1859."

Mr. Thayer never has been given full credit for the important part he took in the admission of Oregon to the Union, and historians and political writers make only mere mention of the fact that it was admitted. A particular attention attaches locally to this matter. But for the prompt and determined action of the representative in Congress from the Worcester district in 1859, Oregon would not have been admitted as a state at that time; would not have been represented in the National Republican Convention in 1860, in which her delegates had an important, if not a controlling, part in the nomination of Abraham Lincoln; would not have cast her electoral vote for Lincoln in the ensuing election, or formed one of the phalanxes of loyal states during the Civil War; and according to Gov. George E. Chamberlain, in his address on Massachusetts Day at the Lewis and Clark Exposition, might not have been admitted to the Union until 1888. Governor Chamberlain, in writing to a member of the Thayer family, says: "I sincerely trust that every man, woman and child in the state of Oregon may learn how deeply they are indebted to Eli Thayer, and that his memory may serve to stimulate the present generation to higher and nobler ambitions."

Meeting for Temperance

The cause of temperance probably never was more practically presented before a Worcester audience than at the thirtieth anniversary of the Worcester Reform Club at Mechanics Hall the latter part of January. The speakers were from the various walks of life and religious creeds, and the audience was one of the largest that has listened to a presentation of reasons of total abstinence for many years. Nearly every church was represented in the list of speakers, and the greetings of various organizations were brought to the meeting by Hon. A. S. Roe, Dr. A. F. Chamberlain and Alderman George F. Brooks and others. An historical address was given by Major F. G. Stiles, the Worcester veteran in the cause of temperance. Eloquent tributes were paid to the greatest of all temperance reformers, John B. Gough, a name which is a part of Worcester's history. The worth of total abstinence societies was dwelt upon by Mayor Duggan and ex-Mayor O'Connell, and the work of the Temperance Crusaders, one of the most noble of Worcester's earlier organizations for temperance, was told in detail by both Major Stiles and Hon. A. S. Roe. What the Catholic church does for the cause of temperance was eloquently, practically and earnestly recited by Rev. John J. McCoy of St. Anne's Church, another Worcester product. He aroused unbounded enthusiasm in bringing to that meeting the greetings of more than 7000 temperance men in the Catholic diocese, in which he is a prominent clergyman. His impressive statement of the work done in the Catholic church in instilling into the mind of every child at its first communion the importance of leading temperance lives, and the value and result of that early teaching, was one of the features of this great meeting. It is men like Dr. McCoy who are responsible, as much as any other class of citizens, for the grand results which are attained in this most important work. While he had great respect for the reformed men and the work of reform clubs, it was his belief that the real good comes from this early teaching, which is one of the tenets of the Catholic faith. No more forceful argument for temperance by more earnest, honest, conscientious workers has ever been presented to Worcester people than came from those men who were in Mechanics Hall at that anniversary meeting.

Tendencies in Public School Administration

The Worcester Public Education Association is, from time to time, taking up for discussion public school matters in Worcester and throughout the country. At a recent meeting, Prof. U. W. Cutler gave a talk on "Tendencies in Public School Administration." This was the result of investigations of the school systems in many of the leading cities of the United States. The address was accompanied by a series of charts showing in detail many important phases of this question. His argument is in line with and emphasizes those made by Dr. G. Stanley Hall of Clark University, Pres. C. W. Eliot of Harvard College, and other educators, concerning school management in general. The data selected from upward of forty cities of the country furnish a mass of facts which are interesting and valuable. One of the charts accompanying the remarks of Professor Cutler showed by means of plotted curves the tendencies of Worcester's school population as regards nationality; also as regards enrollment. The most important of the charts deals with a comparative study of public school administration and financial management. The tendencies of all these cities represented by chart is for a smaller school board. Worcester shows up as having one of the largest in the country, and is now 25% larger than last year. The system of appointive and electoral school boards is considered, and another feature favors placing the care of school property with the school board rather than with the City Council. This chart system shows that Worcester stands a little below the average of the whole list in the average cost per scholar in thirty-five cities. The figures in general show a disposition to support generously, even if thriftily, the public schools of the country as the most

important of all our civic interests. In Worcester nearly 28½% of the total tax levy goes to public school maintenance. Worcester stands fairly well in the sisterhood of cities as regards her school management. Professor Cutler closes his talk with a statement that all considerations would lead us to study well the school problem in all its aspects, and solicits co-operation of all who wish well for Worcester of the future.

An Approach for the Union Station

A special committee from the Board of Trade considered the plans presented by the Boston & Albany Railroad for a new Union Station in Washington Square. At a meeting of the directors of this organization in January, this report was discussed in detail and action upon it was unanimous. It was shown that through the efforts of this committee many changes in the interior detail of the station have been made. The question of separation or non-separation of grades was discussed, and the committee recommended the plan with the changes suggested and which have been accepted by the railroad. The Board of Trade committee feels that it accomplished much in having these changes made. The directors considered a proposition for taking land between Front and Canal Streets and the viaduct for an approach to the station. In fact, it would benefit the street railway company, and would also be a benefit to persons going to the station in carriages, but aside from this, as a matter of civic pride, it seemed to the Board of Directors that this improvement is absolutely needed. A resolution was adopted to the effect that it was the sense of the directors of the Board of Trade that the land between Canal and Front Streets and the viaduct be included in the Union Station site, and that the viaduct be rebuilt with open approaches to the station. The directors also thought that this should be a part of the general plan for the abolition of grade crossings, and sent this communication to the City Council. It was immediately rejected for the reason that it would cause delay. It was generally admitted that the proposition was a good one, but rather than have any further delay in the matter of abolition of grade crossings the city was willing to make the sacrifice of this improvement for the sake of hurrying along the abolition of grade crossings. There is no question that when the station is built, and the exact condition of things realized, the city of Worcester will take steps to provide this approach on lines exactly outlined and suggested by the directors of the Board of Trade. When that time does come, the cost will be much in excess of that for which the work could be done now.

Dead Issue in Worcester

The excise tax upon the business of merchants done with trading stamps has been held unconstitutional by the full bench of the Supreme Court in the case of Michael O'Keeffe vs. the City of Somerville.

The tax was provided by Chap. 403 of the year 1904, and was fixed at 3% of the gross receipts of sales of articles made by merchants in connection with the delivery of trading stamps to their customers. They were required to make semi-annual returns of the amount of such business to the city clerk for the sake of having the tax computed.

The court holds the tax is an unlawful discrimination against the natural right of merchants to deliver stamps or other devices of property right to their customers in connection with the sale of articles. Such methods of doing business are lawful so long as there is no lottery or gambling about it, as being founded, declares the court, upon the principle of constitutional liberty that "the right of one to live and work where he will, to earn his livelihood in any lawful calling, and to pursue any lawful trade or avocation."

This decision will in no way affect Worcester merchants, who are done with trading stamps forever. The Merchants' Association has given the local trading stamp business its death blow, and so complete was the work of the Association that life enough cannot be injected into the proposition to put it on its feet. As an issue in Worcester, trading stamps are dead.

For Education of Employees

In Labor Bulletin 38, sent out from the Massachusetts Bureau of Labor and Statistics, a page is devoted to the evening drawing school of the American Steel & Wire Company in Worcester, under the head of "School and Industrial Mechanical Drawing." The report says: This school was established in 1892 by the American Steel & Wire Company at its south works in Worcester (formerly the wire mills of Washburn & Moen), because of the fact that it had become difficult to find competent mechanics, and it was realized that something must be done to educate mechanics so that they would be better fitted for their work. The school is held in one of the buildings of the company, and its equipment, consisting principally of drawing tables, materials, etc., costs but little. The school is in session for five months in the year, beginning the first of November, and devoting three evenings a week of two hours each for instruction, making a total of 120 hours in the entire course.

The courses of instruction are largely in mechanical and architectural drawing, and the amount of time required to complete the course is four or five seasons. Generally, about 75% of the pupils who attend complete this. The system of instruction used is the individual type, that is, each pupil is given individual instruction, which allows him to advance as rapidly as his ability will warrant. On account of the shortness of time devoted to the work, and the eager desire to advance, it has been found that this system is very much superior to class work, and has been used entirely for the past five or six years.

The attendance of the school is very regular, as the Company makes it an object for each man to give as much attention to it as possible. At the close of the school year, ending the last of April, 1905, the class numbered 60 pupils, and each year shows an increase in the attendance.

All necessary apparatus is provided by the Company, including instruction and material.

The benefits derived from attending this school are very apparent in the works, and the general intelligence of those who attend is undoubtedly raised. The annual funds for maintaining the school are furnished by the Company.

Year of Increase in Building

The year just closed has been one of unexampled prosperity to the builders throughout the country. In nearly every large city there has been a substantial increase over the building of previous years, the rate of gain over the year 1904 going as high as 95% in one case, and reaching around 50% in a dozen instances. Worcester has shared in the evidence of prosperity, though her percentage of increase has not been as great as that of some other cities. Worcester has arrived at the point where her growth is absolutely normal, not influenced by temporary considerations, nor by booms. Her growth in building, as in other directions, shows an evenly balanced and temperate development along substantial lines, and is the sort of record which is the most encouraging to business men. During 1905, the amount of building done in this city was between $2,000,000 and $2,500,000, a decided increase over 1904. Some of the figures taken from 27 cities show an increase. They are: Out of 27 principal cities of the country, including Boston, the cities that have had building operations aggregating as much as or more than this city are New York, with a record for 1905 of $147,903,643, gain over 1904, 60 p.c.; Brooklyn, $70,989,900, gain 44 p.c.; Chicago, $60,443,120, gain 32 p.c.; Philadelphia, $39,831,235, gain 37 p.c.; St. Louis, $23,591,012, gain 65 p.c.; Los Angeles, $15,331,607, gain 14 p.c.; San Francisco, $21,941,595, gain 31 p.c.; Pittsburg, $16,245,047, which is a loss of 6 p.c.

Only four cities out of the 27 show a loss, these being Pittsburg, Memphis, Atlanta and Seattle. Pittsburg has shown unusual activity in former years, which may account for her apparent loss this last year. The total amount of building done in the 27 cities in the year 1905 reached about $544,186,412, showing an increase in the aggregate of about 40 p.c. over the record of 1904.

Call them Harvard Ideals

President Charles W. Eliot of Harvard College came to Worcester within the past month as the guest of the Worcester Harvard Alumni Association at its annual dinner. He paid the highest tributes in his address to Senator George F. Hoar and Hon. Stephen Salisbury. Senator Hoar, he said, represented the Harvard ideal of freedom and Mr. Salisbury the Harvard ideal of quiet public spirit. In speaking of the Worcester Art Museum, the creation of Mr. Salisbury, this statement was made by President Eliot: "Massachusetts is a barren state and has to depend for its future on its manufactories. No workman can be a skillful workman and do good work unless he has something of the artist in him, and the establishment of an art museum in a manufacturing centre like Worcester was the wisest and most far-seeing provision for the continued prosperity of the city that any person could have devised."

Block Signals and Common Sense

In making their annual report to the Legislature, the Railroad Commissioners recommend that the policy of the future of railroad officials ought to be one which shall vigorously put forward the installation of block signals of the most approved types. In their opinion rules leave too much discretion and responsibility with train hands. They say:

"The block signal has been introduced to a varying but insufficient extent upon these railroads. We believe it should be generally installed where trains follow each other in quick succession or meet each other at frequent intervals. This suggestion applies as well to street railways where cars are run at high speed.

"We recommend legislation requiring railway companies as run cars under similar conditions, to equip, within a reasonable time, lines of the character above named with a block signal of such type and install in such manner as the board may approve."

This report also warns the public against believing that block signals will prevent accidents, of themselves, and points to cases where with the very best block signals that are known, accidents have happened. There is but one thing that will save a road from accidents, with or without block signal: that is, a wise set of operating rules and absolute obedience to these rules. It is the man at the throttle, the man at the brakes, the man behind the telegraph ticker—the railway employee, in whatever position of responsibility, who can save the passengers from accident. No machinery can or ever will take the place of the man.

The Billboard Agitation

The efforts of the Twentieth Century Club to bring before the people of Worcester the billboard advertising proposition were successful. Mechanics Hall was comfortably filled on the night of Jan. 22 by an audience fully in sympathy with this movement, which is to abolish so far as possible billboards in and around Worcester. Rev. A. S. Garver was the speaker, and there were presented on a screen nearly 100 pictures of billboards, which many residents of this city have seen frequently. They never impressed one quite as much as when they were thrown upon the screen. The condition of some of Worcester's streets, where long lines of billboards attract the eye, presents a rather sorry spectacle. Beauty bits of country that once were admired have been destroyed by the use of billboard advertising, and within the city limits some frightful examples are shown. Perhaps the most striking illustration of this is along Park Avenue, where attractive sections of Newton Hill, and beautiful, great trees are completely hidden from view. The last picture shown was that of a long billboard on Main Street, near the corner of Richards Street. It shuts out the view from the street of several residences, and the architectural beauty of the South High School is ruined. The lecture and views unquestionably made a strong impression upon the audience, for not until the specific cases, where the billboard seems to be a great annoyance and detriment to the attractiveness of the city and its surroundings, did the majority of the

people realize the importance of the agitation. It is a strong effort on the part of the Twentieth Century Club, and some good certainly must come from it. Like every other public question that has to do with the betterment of local conditions, a sentiment must be aroused to bring about the desired results.

How to Get Business

The Massachusetts Bureau of Labor Statistics sent a circular letter to each of the 321 towns in the State containing inquiries relative to land, water power, tax rebate, raw materials, natural products, available help, railroad facilities, kind of business best suited to the town, electric railways, etc. Returns were received from 231 towns and they are presented in a condensed form in a bulletin.

The replies to the circular relate particularly to the amount of land available for manufacturing purposes, the amount of water power not yet utilized, and the facilities for railroad transportation. There is still much water power unutilized, and the report shows that the desire for new manufacturing industries is as great as ever. There are forty-eight towns desiring boot and shoe factories; twelve want box factories; forty-four canneries, the raw materials being close at hand; eleven desire cotton mills; fifteen, machine shops; six, paper mills; nineteen, manufactories of woolen goods.

Several years ago the abandoned farms of Massachusetts were advertised by the Board of Agriculture. The plan was successful, and the farms were disposed of to eager buyers. The authorities hope that the present advertising of needed industrial establishments will be followed by equally satisfactory results.

Anti-Noise Law Good Idea

The recent adoption of an anti-noise law by Rye, N. Y., under which all unnecessary noises are prohibited between 9 p.m. and 7 a.m., has caused considerable mirth in other cities; yet it is distinctly a step in advance, and it is a step that has been taken, to a greater or less degree, by many other cities. A large paper mill at Portland has silenced its bell and whistle, though it works three shifts of men a day. No railroad or steamboat bell can sound within the limits of Cleveland; there is a penalty of $50 fine and thirty days' imprisonment for blowing a steam whistle in Atlanta; several of the Lowell mills, employing nearly 20,000 persons, have discontinued the bells and whistles. These are all steps in the same direction—all efforts at making city life less obnoxious. The use of the factory whistle is an anachronism. All unnecessary noise is to be deprecated. As cities have grown, the number of noises has increased faster than has been realized; but now the reaction is coming, and in future years life will be more endurable.

Merchants' First Banquet

The Worcester Merchants' Association started its second year under most favorable circumstances. The banquet in the State Mutual restaurant on the night of Jan. 23 brought out 150 members and guests. The speakers included Mayor John T. Duggan, City Solicitor A. P. Rugg, and Mr. A. P. Cristy, editor of Worcester Telegram, and Rev. Dr. Frank Crane. There was not a dull idea expressed and considerable enthusiasm was aroused. Mayor Duggan called up business memories of the past, Mr. Cristy paid special stress on the needs of good, honest, governing power for successful results, and showed the financial condition of Boston, which is a competitor for Worcester business. Mr. Rugg impressed upon the business men that manhood has made Worcester, that men of inventive genius and manufacturing skill helped to make this a great manufacturing centre. Rev. Mr. Crane impressed upon the business men the importance of doing right. President W. W. Johnson presided gracefully, and the Association deserves credit for its work and its results.

ELI THAYER AND THE ADMISSION OF OREGON.

THE circumstances attending the effort of Oregon to attain statehood, and its success, form one of the most interesting episodes in the political history of the country. Strangely, an event which stirred the public mind so deeply and was the subject of general comment at the time, a narrative in detail of which furnishes so much curious information with regard to the first strictly partisan demonstration by the republican representatives in Congress, has been overlooked, ignored or slightly treated by historians and political writers. Even in works which refer especially to Oregon, nothing more than mere mention that the state was admitted to the Union appears. A full account has never been given, and the facts are to be found only in the pages of the Congressional Globe and in the files of the newspapers of that period.

A particular interest attaches locally to this matter. But for the prompt and determined action of the Representative in Congress from the Worcester District in 1859, Oregon would not have been admitted as a state at that time; would not have been represented in the national Republican Convention of 1860, in which her delegates had an important if not controlling part in the nomination of Abraham Lincoln; would not have cast her electoral vote for Lincoln in the ensuing election or formed one of the phalanx of loyal states during the Civil War; and according to Governor Chamberlain, in his address on Massachusetts Day at the Lewis and Clark Exposition, Oregon might not have been admitted to the Union until 1888. Later Governor Chamberlain wrote: "I sincerely trust that every man, woman and child in the state of Oregon may learn how deeply they are indebted to Eli Thayer, and that his memory may serve to stimulate the present generation to higher and nobler ambitions."

The consummation of this purpose of injustice towards a worthy and enterprising community would have carried with it a greater and as lasting reproach to the republican party as that which rests upon the democratic party for so long keeping Kansas out of the Union. Fortunately the new party was saved that dishonor, and today, no one with a clear knowledge of the circumstances doubts that Eli Thayer was right in combating a policy so mistaken and mischievous. Yet no other act of his public life brought upon him as sharp condemnation from a large portion of his constituency, and the body of his political associates in the House of Representatives, as this; and it may be added that no other experience of his Congressional service gave him greater satisfaction in his later years.

Organized as a territory in 1848, and with the example of California, with an independent local government in operation, it is not strange that Oregon was impatient for a condition of equality, and that a strong desire was cherished by her inhabitants to become the second of the great Pacific commonwealths at the earliest moment that Congress could be influenced to admit her into the Union as a state. The outcome of this desire and effort was the passage by the House of Representatives of the Thirty-fourth Congress, in its last session (1857), of an act authorizing the people of Oregon to form a state constitution, but the bill did not reach the Senate before the final adjournment of that Congress. A constitution was, however, adopted by a convention, and this was ratified by the vote of the qualified citizens of the territory. This document assured a republican form of government in accordance with the Constitution of the United States, and prohibited slavery, but it contained certain provisions excluding negroes and mulattoes from the state and depriving them of the right to bring or maintain suits in its courts, and other objectionable clauses, which were in conflict with the

sentiment and practice of some other portions of the country. The restrictions upon persons of color had been allowed as a compromise with a large element in Oregon that would favor a free state government if negroes were excluded entirely, but would vote to have a slave state if they were to be allowed there. The vote in favor of this policy was 8,640, and against it 1,081. "Many of those who voted for exclusion of free negroes were at heart opposed to the policy, but it was considered necessary to throw this tub to the whale of the pro-slavery party to secure the success of the free state clause of this constitution," said the Hon. George H. Williams, in his address at the fortieth anniversary of the admission of the state. The negro exclusion clause still remains in the Constitution of Oregon, and a recent attempt to expunge it failed, showing that the sentiment on the subject of negro equality has not changed in that locality in sixty years. This clause is, of course, inoperative under the amendments to the Constitution of the United States. In 1859 this sentiment was in accordance with that of the people of Indiana and Illinois, in which states it was enforced by stringent regulations.

During the first session of the Thirty-fifth Congress a bill to admit Oregon, with the constitution above referred to, was presented by the Committee on Territories of the Senate, and was brought to its passage in that body on the 19th of May, 1858, by a vote of 35 to 17, with ten senators absent or not voting. Eleven republican senators voted with the majority, and six, Fessenden, Hale, Hamlin, Durkee, Trumbull and Wade, voted against admission. But with these latter in opposition we find Jefferson Davis, James H. Hammond, Alfred Iverson and James M. Mason; while foremost in advocacy of the measure, although he expressed his disapproval of the negro exclusion clause in the Oregon constitution, was William H. Seward; and he was sustained by ten republicans who followed his lead, Cameron, Chandler, Collamer, Dixon, Doolittle, Foot, Foster, Harlan, King and Simmons. Charles Sumner was absent on account of disability, and Henry Wilson, as he afterwards told Mr. Thayer, not wishing to vote either for or against admission, walked into the cloak room. Mr. Wilson had previously characterized negro exclusion as inhuman, unchristian and unworthy of a free state, but he evidently was not sufficiently impressed with this feeling to vote in accordance with it. The only other republican absentee was Daniel Clark, of New Hampshire.

It is thus clearly indicated that the admission of Oregon was not at first regarded as a strictly party question, and it probably did not become such until, at the beginning of the next session, it was discovered that the administration forces in the House could not command their usual strength in its support. It became known that a certain number of democrats of extreme southern sentiment who opposed the erection of any more northern states would vote against the bill. This gave advantage for once to the minority, and the republican managers were quick to see and avail themselves of an opportunity to not only retaliate upon the democrats for the wrongs in Kansas, but also to exhibit the party strength and discipline. This intention was thwarted by Mr. Thayer.

There was a contingent of republicans which, with the feeling that Oregon was likely to be a democratic state, and the apprehension that its representatives in the next House might decide the question of the presidency in 1860, in case of failure to elect in the usual way, would vote against its admission; and there were several with the absurd fear that it might become a slave state. Mr. Thayer had no sympathy with these sentiments, and believed it to be the duty of a Representative of the sovereignty of a great people to vote according to the implication of the provisions made for such instances without reference to the political tendencies of the state to be admitted. But he believed that Oregon would become a republican state, especially if it should be admitted by republican votes, and he had no fear whatever that slavery would be established there or in any other place where it did not exist, convinced as he was that the institution had received its death blow in the Kansas struggle. In

this he proved a true prophet, for, although Oregon was admitted in the face of republican opposition and predictions, it soon became republican, and has with few exceptions remained so.

Their sense of justice with regard to Oregon's right to enter the Union operated strongly with both Mr. Seward and Mr. Thayer in influencing their action and vote; and in this the difference between statesmanship and mere politics was demonstrated. Aside from this, however, a stronger motive was apparent in the gaining of another free state, an advantage vastly more important at that juncture than the recognition of an abstraction, as negro equality in that instance turned out to be; or a temporary triumph over political opponents. Thayer and Seward stood upon precisely the same ground in regard to this matter, but, while the Massachusetts politicians had no censure for the New York statesman, who was their favorite presidential candidate, they bitterly denounced Thayer for his successful revolt against party discipline, and his Oregon vote was one of the principal causes of his defeat in November, 1860.

Early in January, 1859, Alexander H. Stephens, chairman of the Committee on Territories in the House, announced that he had the bill for the admission of Oregon ready to be reported. In the issue of the New York Tribune, of January 11th, the policy of the republicans in the House under the peculiar circumstances of the case was indicated and was substantially followed as it developed. It would appear that Mr. Greeley and others, leaders of opinion in the party, had formulated this course, and expected thereby to compel the democratic majority to recede, or in some way to yield, in the matter of the restrictions upon the admission of Kansas; or, failing in this, they would be able at least to punish their opponents and the administration by applying the power of the republican organization in a way that would be felt. So the dictum went out that the minority in the House, now having its first opportunity to control, was to act as a unit, and vote to a man against the admission of the new state. Mr. Thayer had early intimation of this, and it aroused in him that spirit of resistance to partisan dictation which he so fully manifested from that time. He resolved to take his own course in what he regarded the right direction, and to abide the consequences, whatever they might be.

Every effort was now put forth and all possible pressure exerted by those interested, to enforce party discipline, creating a condition in the new organization with which its members had not been familiar. Horace Greeley and Thurlow Weed appeared in Washington, though not together, to use their influence and persuasion with the congressmen, and, in connection with the arguments and imploration of Mr. Greeley, was the implication that the censure of the influential journal of which he was the editor would fall upon those who should have the temerity to oppose its direction.

In a statement to the writer, Mr. Thayer said in regard to the caucus action:

"I protested against this policy, saying that Oregon had been a territory for ten years, that the House had passed an enabling act with which she had complied, and that the Senate had voted to admit her with the aid of republican votes; that she now asks admission into the Union as a state, presenting for our acceptance a free-state constitution. That I would not be bound by the decision of the caucus; that I was strongly in favor of the admission of the new state, and that I should work for it, and induce other members of the party to vote for it, but that I should vote in favor of it even if no other republican could be found to do so.

"As soon as the caucus was over I went to Mr. Stephens and told him that I would work night and day in favor of his report. He was much pleased with the promise of my support.

"I began at once to urge upon republicans the duty and good policy of admitting Oregon. By persistent effort I secured sixteen who promised to vote for admission, and should have had others, but Greeley and Weed frightened some of these away, and weakened my support. But on the day of the vote we

retained fifteen who, with the democrats, were able to admit the state by a majority of eleven.

"On the day of the passage of the bill I gave my reasons very fully for the course I had pursued. It was well known at that time that it was due to my work that Oregon became a state, and for a few days I was roundly abused by some of the inferior republican journals and the Tribune. Soon, however, under the lead of the New York Evening Post and the National Era, nearly all the republican papers defended my position.

"Among those whose confidence in their own judgment Greeley had seriously impaired was Schuyler Colfax, who remained undecided to the day of voting. That morning I walked to the Capitol with him. On the way he said: 'I was never in such perplexity about my duty as I am in this Oregon matter.' We were just then passing the office of the National Era, and I suggested that he get Dr. Bailey's opinion. Accordingly we went in, and he said: 'Dr. Bailey, I do not know what to do about Oregon. Thayer wants me to vote for admission, while Greeley is just as earnest the other way. Now I have come to you for a decision. I shall vote upon this question as you advise.' Bailey at once replied: 'Vote with Thayer, for he is right.' We proceeded to the Capitol, and Mr. Colfax cast his vote in favor of the bill.

"I had felt sure of John Sherman's vote, but he did not appear in the House at all that day, and so did not vote either way."

The grounds of republican opposition to the Oregon constitution, in addition to those above stated, were that aliens not naturalized but who had made oath of their intention to become citizens were allowed to vote (certain democrats joined in this objection); that the population was less than the number required in a representative district in other states; and that the English bill made an invidious distinction in requiring that Kansas should wait until such number was reached. These were public reasons upon which to make speeches for the ears of the country. But the private reason which had much greater weight with many republican members was, as Mr. Thayer discovered, the fear that Oregon would be a democratic state, and would increase the majority of that party in Congress--"a very silly reason," he said, "but most silly for republicans, as the result has shown. Had this reason prevailed, it would have been even more powerful in the Thirty-sixth Congress, and Oregon would not have been represented in the Chicago Convention in 1860."

The debate began on the 10th of February, and was participated in by Messrs. Davis of Indiana, Maynard of Tennessee, Bingham of Ohio, Hughes of Indiana, Grow of Pennsylvania and others. Mr. Grow presented the minority report, and this contained the burden of republican opposition. The debate was resumed the next day. Mr. Clark of Missouri advocated the right of every state to confer the privilege of suffrage on whom she pleased. New York required a negro to be worth $250 before he could vote, but any white man could vote.

Mr. Lane, the delegate from Oregon, said if she were kept out now she might remain with only one representative until her population was 300,000.

Mr. Dawes of Massachusetts said that his objections were in the Oregon constitution, which was not only not republican, but was not a free constitution. He concluded:

"I cannot be driven from my opposition because there are other provisions of this constitution which incline some to call it a free state, or because if I remand it back to a territorial government under the Dred Scott decision, slavery exits there. I demand something more than a free state in name. I want the reality. If slavery exists in Oregon while a territory it is because the people want it, and if they want it, they will make it a slave state in name as in fact within a twelvemonth if admitted.

"I speak for no individual but myself, and for no constituency but my own. I think I know their sentiments; and should I vote for this bill, I should expect to be burnt in effigy at every crossroad in my district. I do not intend to disappoint, in this respect, the just expectations of those who sent me here."

Mr. Dawes was a fair exponent of what he thought was the sentiment of his state, and his sincerity and uprightness cannot be questioned. But it developed after the event that even Massachusetts was divided in opinion, and that the unqualified disapproval of the action of Congress in admitting Oregon did not follow, as those who had organized against the act had been led to believe by Mr. Greeley and others who had set their hearts on the defeat of the bill. Even Mr. Thayer was surprised at the measure of assent which found expression within a short time, and he had expected much more censure than he received outside of his district. The feeling there remained strong and bitter to the end. How far his speech operated to influence the opinion and change of view in the North at large can be judged by its perusal; there is reason to believe that its effect was powerful and far-reaching, while it is also reasonable to assume that so mistaken a position as that taken by the majority of the republican representatives in this affair would not have been universally approved by their constituents even if by that means the admission of Oregon had been defeated.

In the speeches of the Northern members on this occasion there was apparent the same feeling of apprehension in regard to the invincible nature of the slave power, and its inevitable advance, with which so many Northern minds were indoctrinated; and the same distrust of the ability of the forces of freedom to cope with it, so widely prevalent then which Mr. Thayer, with his supreme faith in the victory of right over wrong, and his certain belief in the decline and extinction of slavery, had so often tried to counteract. Whether their judgment was at fault, or their fears and predictions were justified, can best be determined by our knowledge of the course of events in Oregon after the state was admitted under the obnoxious conditions against which they protested; and the wisdom or unwisdom of Mr. Thayer in his position can be shown in the same manner.

FRANKLIN P. RICE.

(To be continued.)

The greatest present American need is improvement in the government of our cities. Evidences abound that the country realizes this and is aroused. The necessity is broader than party lines. You represent all political parties. The time has come when for public and commercial reasons more attention must be given by business men to the makeup of our city government, more attention to their acts. Whatever your political party, you can help Worcester by demanding the nomination of larger men to the city council, by frowning upon candidates who proclaim that they are not in politics for their health. If taxes are high, if apropriations are in part made by incompetent men, if some appropriations are but the vehicle to take away the money of one man and give it as an unearned gratuity to another man, to pay for votes; if the city debt steadily rises until one-third of the annual tax levy is required to pay the interest on the funded debt, and upon temporary loans, manufacturers will not locate in Worcester, and those now here will shade their activities. Labor will not be so largely employed; your trade will not increase, nor will it have that snap which your interests require. The creation of a healthy, vigorous civic sentiment by your aggressive action is a business necessity.—Mr. A. P. Cristy, at banquet of Worcester Merchants' Association.

POWER POSSIBILITIES OF THE FUTURE.

ONE of the most important and interesting smoke talks given by the Board of Trade was that by Professor Elihu Thomson, chief electrician of the General Electric Company of Lynn, which took place in Washburn Hall Jan. 18. Professor Thomson, one of the original members of the Thomson-Houston Company, now the General Electric Company, is to-day the foremost authority on electrical matters in the world. Forty years of his life have been given to inventing electrical apparatus with marked success, he having obtained patents on over 600 of his inventions, all of which are practically in use. They apply to arc and incandescent lighting, motors, meters, street railway appliances, and a dozen other uses. His subject was "Power Possibilities of the Future," and was exceptionally interesting, instructive and entertaining. In the way of introduction Pres. H. W. Goddard of the Board of Trade called up the fact that when Professor Thomson was looking for a location for his industry, Worcester was considered, and could have had it for a small stock subscription. This was more than twenty-five years ago, when the company was new and the development of electricity was in its infancy. Since then the company has grown to the capacity of employing nearly 20,000 hands in Lynn and Schenectady, N. Y. The reference made to this fact is herewith printed in connection with Professor Thomson's address in full.

Pres. H. W. Goddard said: "We have with us to-night a gentleman whom we all know by reputation that extends from one end of this country to the other, and abroad as well. The only regret his presence causes is the thought, and it is a matter of history, that he ought to be from Worcester and one of us, rather than from Lynn, if the proper encouragement was given and the necessary offer made, for the great Thomson-Houston Company would have located in Worcester rather than in Lynn.

"How applicable the lines:

> Of all the sad words of tongue or pen,
> The saddest of these it might have been.

"Next to being of Worcester is to be of Massachusetts, and he is an honor to the Old Bay State. I present to you Prof. Elihu Thomson of Lynn."

Professor Thomson said: "Your chairman has alluded to the fact that possibly, if things were different in the times nearly twenty-two or twenty-three years ago, Worcester might have boasted us instead of Lynn. But a good many things have intervened since then, so it is hard to say what would have happened. Now we may console ourselves that you and we reside at one and the other spoke of the universe.

"I was asked by Mr. Coughlin to speak to you on a subject about which I gave a talk in Boston on the occasion of the gathering together of the electric light and power station men of New England. It was the subject of a few possibilities in regard to power. The importance of power itself need not be dwelt upon. The one thing which characterizes the present era, beginning with the nineteenth century, was the utilization of power. The steam engine, although invented in the latter part of the eighteenth century, did not obtain prominence until early in the nineteenth century. But through the nineteenth century the growth of application went on, beginning with stationary engines, and going from railroads to steamships. Even to-day we depend largely on the steam engine for electric lighting especially. We depend, and will depend on it more and more as time goes on for such uses. We hope some day to make electric lighting universal, and we have only to keep on making the efficiencies of our lamps, and that process is going on at a fairly rapid rate, and we are greatly encouraged at the advances in that direction.

"Then there is the large utilization of

water power. It is probably the oldest form of power utilized by men who want power, and these have been made through the agency of electricity. But water power is limited, and the demand of the race increases. Practically, Niagara will be absorbed in power stations. There are from $5,000,000 to $7,000,000 of horse power represented in Niagara, and because of so much wealth, even in spite of æsthetic reasons, Niagara will have to go the way of other powers, and that is the worth of it commercially, and commercialism rules, I am sorry to say, many a time. I am not so sorry in this case, because while a beautiful sight, it does seem an awful waste of power.

"As to our other sources of power we have to rely on something to burn for ages to come. Our coal, oil and wood are getting scarcer. Wood is getting scarcer, and it is more difficult for us to avail ourselves of it. And coal is getting scarcer, and eventually the mines will be unable to supply us. The population increases, and the consumption grows, and our railroads, trolley cars, mills, factories—everything means, if not water power, coal. It may mean oil, but that has only a limited tenure as a source of supply. It is not likely we can dig the earth for oil everywhere and find it.

Solar heat, the heat of the sun, can be utilized as a source of power, but if it ever is utilized it will be in a wasteful way. The application of electricity has so broadened the application of its use as a power that the demands for power must increase at a rapid rate. Motors are placed everywhere, and the electric distribution makes the demand for greater power, supplying new needs. This will go on, and it is our question as to how the demands may be met.

"We have seen the steam engine and water wheel applied to the turning of dynamos, and to-day we are seeing another kind of change, the turbine engine, and we hear of the successful trip of the Carmania. It is curious the turbine engine was so late in its development, and it is a matter of pride with electrical men that it came from an electrical engineer, that Mr. Parsons first applied turbines to dynamos until 10,000 horse power each are not unusual. We are now building at Lynn turbines of 2000 kilowatts output, and at our shops at Schenectady we are building them at from 8000 to 10,000 horse power.

"Now how does this peculiar machine differ from the steam engine? Simply this, it is a windmill. I remember in Philadelphia that I saw a rotary wheel driving a circular saw, and if anyone kept his eye on the boiler, he could see the gauge showed diminishing power at a fearful rate as compared with the force of cutting the wood. The reason it was not a better machine was lack of knowledge of keeping the steam. The best methods of catching that steam and getting the velocity of the rotating parts were out of the question. The action of the parts was not understood.

"To-day careful experiments are made with every detail. The shapes of all parts are carefully studied, and at Lynn we are carrying on regular research laboratory study for detail, and we find that certain things can be changed a little and give better results. All these results are going down on sheets of data, so that when we make a new machine, we examine that and, after a few years, we may have the turbine down finer than the steam engine.

"Having thus pointed out the direction in which the steam engine will develop, and I mean the turbine driving the screws of the steamship, or any piece of machinery, directly or indirectly, it becomes a question, what after the turbine? Is that the ultimatum, the last word in regard to the development of power? We occasionally hear statements like this: So-and-so is developing apparatus to catch electricity from coal. What a great thing that would be, if we could use coal without losing a great percentage of its heating value. It would be immensely more efficient than the present, and we could get a larger percentage of the heat value of the coal, and provided that apparatus is simple, and that it does not cost much of anything to maintain it. What a difference it would make if we had batteries making one volt, even if we had to have hun-

dreds of them, if we had to cover this whole building with batteries, if 50 or 60 or 70% of the heat value of the coal went into electricity? We can do pretty well by other machines. And this brings me to speak of the internal combustible engine so much used in automobiles, using gasoline as a fuel. A gas producer can be placed beside an engine, and the gas goes into the engine, and takes the place of gasoline, and we get power. Kerosene can produce gas. The efficiencies obtainable, the amount of power for a given amount of fuel, under the best conditions in a combustible engine, are in excess of those obtained from a steam engine. A steam engine is doing good work when 15% of heat is turned into available power on the shafting. That makes about 85% thrown away in loss. Under refined working conditions that figure might be brought up to 20%, but it is difficult to see how we could go much further than that. Ordinary steam engine plants only go as high as 10%, and many only go as high as 5% of the heat value of the fuel turned into work. Unless the fuel were cheaper, we would have to go to higher efficiencies. We all know that fuel will rise in price. Coal cannot be mined in 50 or 100 years as it is to-day. The population will increase and the demands for power will increase at such a rate that coal could not be mined and sold at the price it is to-day. And the result will be that we will have to look, whether we like it or not, for higher efficiencies, and we will probably turn to internal combustion. These engines can work up to 50% of the value of the fuel, and frequently they work up to 30%, so we have hope in the steam engine. Improvements will be made on a large scale, and the results will be better, and 40% will be considered a normal efficiency for an internal combustible engine.

"How does this compare with animal power? Nature has done better than we could do. The covering of the bird is the most perfect for a flying animal. The covering of the fish is the most perfect covering fish could have in the water. The covering of the boat can never equal the covering of the fish. It is slimy, and goes through the water without producing turbulence, which means loss of power. A bird goes through the air without any turbulence. Just imagine the amount of work a horse does on a quart of oats! It is something over 50%. But the horse has to have oats; he cannot eat coal, and he cannot live on oil. Our engines can use coal and oil, and so long as oil and coal are cheaper than oats, pound for pound, we can make power on that basis better than the horse. And, besides, the horse is subject to all sorts of troubles, and we cannot repair him so well as the engine. He may die or may be attacked with some sort of germ we have not got hold of. An engine may be attacked with a broken piston rod or shaft, but we can put the new part in.

"It is a very risky sort of thing to attempt to predict the future, because new discoveries are constantly being made which change the whole aspect of things. Some five or ten years may change things. So it is not wise to predict, unless you make a prediction of so many things that one of them will come true so that you will get credit for it. That is the way the weather prophet succeeds.

"As an instance of the changes which are forced upon us in recent years, it was only a short time ago that we regarded atoms of matter as pretty well fixed, that iron or zinc didn't change. But radium has taught us that atoms of matter are to be changed, and it is changed more rapidly than the others. In other words, the universe is running down, and is undergoing a general process of degradation.

"And when one thinks of radium we see that it contains enormous power stored up in its body, and it will go on through thousands of years emitting something which will give out heat greater than oxygen or hydrogen. It is a perfect storehouse of power, enormous power. But how to unlock it, how to get that power out! It will take 10,000 years for radium to run down. We can't remove the escapements to let the wheels run faster, and until we do, those things

must remain as they are, question marks for the investigator.

"We are working, as it were, on the fag end of the universe. The universe is enormously full of power, and we are on the ragged edge, where things are coming to rest.

"It has been calculated that if you had one gram, or fifteen grains of material moving at the rate of speed which light moves through the air, that one gram would contain in itself enough energy to lift the whole of the British navy 3000 feet high, to the top of Ben Nevis in Scotland. These particles represent an enormous evolution of power.

"Now I have been up in the clouds a little. I am coming down from the heights to earth, as it were. Long before coal or oil are exhausted as fuel, we will have to begin thinking what will supplant them. Sir William Crooks, for many years president of the Chemical Association, says some day when coal and oil become scarce, it will be necessary to grow the fuel, and import it in the form of logs of wood. Great territories are there which can be cultivated as hard wood, and sufficient cut off as fuel for the rest of the world. That was his idea. But there is another solution for fuel, at least for high grade fuel, which can be applied to many parts, and that is what I call the alcohol situation. If we grow things that can be fermented, we can produce alcohol. In Cuba alcohol is grown and sold at 12 cents per gallon. It could be made, I am told, in this country, from the waste of beetroot for 12 cents, and sold for 15 cents a gallon. Every farmer could make it from corn, and it could be piped and treated as oil is treated. It is more limpid than oil, and there would be less waste in our pipes. It is so limpid and free from matter that it could be made a source of power.

"But what do we pay $2.07 a gallon for a tax alone for 12 cents' worth of stuff? I tried to get a little of the Cuban alcohol at Lynn to run an engine with some time ago. I found that to get five gallons into the country it required that $4 a gallon should be paid import duty, and $9 for something I don't remember, and that the importer had to get a $100 license to import it, five gallons of alcohol for $139; worth 50 cents! By some means or other I managed to get the alcohol, and tested it, and it was very high grade 90%. We tried it in an alcohol engine. It is of excellent value, and works at higher efficiencies than gasoline. Thirty-eight per cent. has been realized on alcohol engines, which puts it on a better basis than gasoline, and it has not the objectionable odor that gasoline has, either before or after the explosion. It mixes with water in all proportions. It does not float on the water, and is safer than gasoline. It mixes with drinks.

"Now nothing could be more absurd than this tax, because some people will drink too much alcohol, some few who are called drunkards, and given a sort of opprobrium to it, every one of us are held back from using it and getting its benefits. We have to pay more for hats and varnish, because grain alcohol must be used. Suppose you take the tax off alcohol for industrial purposes, how about the revenue the government depends upon from alcohol? The government needs the money—that is the reason assigned for the tax, but if it does, why does it allow the state of Maine to prohibit it whereby the state escapes the support of the national government? Oh, the whole thing is absurd from one end to the other.

"Other countries are doing better. In Germany denaturalized alcohol is free from tax, and is, consequently, very cheap, and that means for anything which prevents it from being used for beverages. In Germany the situation is that Germany manufactures more of the fine chemicals and sends them all over the world. It sends them to us. We are cut out from that field and unless we can have free alcohol we cannot compete.

"Germany consumes in the arts ten times as much grain alcohol as we do, and the population of the country is considerably less, as you know, and the people probably not making as great demands either. We ought to be active in these very industries. We are not at present.

"I have no interest in any of those

things. It is purely a case of seeing an absurdity and wishing to do away with it. The chief influence against the removal of the tax for industrial purposes on the denaturalized alcohol is the wood alcohol. Wood alcohol could not be made at anything near the cost of grain alcohol, six or seven times the cost, and we say what an extravagant thing it is to produce it in any quantity. Three hundred gallons of wood alcohol, six barrels, are produced from one acre of hard wood, which take years to grow. It means the destruction of valuable forforests. Eight million to ten million gallons, manufactured annually, means how much wood forest destroyed, with 300 gallons to the acre? You can figure it out for yourselves. Worse than that, highly refined wood alcohol has not the disagreeable odor, and it has been conclusively shown that wood alcohol has been used when grain alcohol could not be secured for inside and outside application. Besides that, it is poisonous and injurious. The very fact that it can be refined and sold at $1.50 per gallon while the ordinary alcohol costs $2.38 a gallon, means that unscrupulous people use the wood alcohol for the other when they think they will not be detected. Without that heavy tax there would be no use for wood alcohol. But you say that is pure alcohol. It means that the tax on pure alcohol is much too high. Pure grain alcohol ought to cost always less than wood alcohol. Put the tax on that basis, and wood alcohol would never be used in the way that I have indicated.

"It is a practical question for autoists, who should try to bring about a civilized condition of affairs, and thus lessen the barbarous condition which now exists.

"I hope I have indicated some of the conditions, and made converts of you to free alcohol,"

H. F. Harris, at the close, spoke of the interest they all had in the lecture, and remarked that the committee was to be congratulated on securing such an able speaker, one who had such a thorough grasp of his subject.

On the call of President Goddard a rising vote of thanks was extended Professor Thomson.

Worcester is a clean city. There has never blotted the records of our municipal administration the gross dishonesty and fraud which made the administrations of American cities a by-word and a scorn in the mouths of our people. Worcester, perhaps, has not always been the wisest managed, but I believe the great works and the great expenditures of money which the city has made, have been honestly made, and that Worcester has been honestly governed, and that is a great thing, and that is one of the attractions to you, as merchants and manufacurers, who come here, and it can be said, without successful contradiction, by the Board of Trade, to any manufacturer who seeks Worcester as a field of operation, that he has not to be sent to the official bribetaker before he gets the rights of a citizen in the city of Worcester. (Applause.)

And it is upon this foundation and in this field of activity that the merchants of Worcester to-day start. Worcester is armed with the might of her great and varied industries, decorated with all the adornments and beautifications of her parks, crowned with institutions of learning and sufficient to challenge the love and stir the intense patriotism of every man, woman and child within her limits.—Mr. A. P. Rugg, at banquet of Worcester Merchants' Association.

TENDENCIES IN PUBLIC SCHOOL ADMINISTRATION.

ON the afternoon of January 18th, U. W. Cutler spoke before the Public School Education Association upon his recent investigations of the school system in some leading cities. The address was accompanied by a series of charts, too extensive for reproduction here, and was followed by an interesting discussion in which Prof. G. I. Alden, president of the Association, Mrs. J. H. Robinson, and others participated. The address, so far as it can be reduced to printed form without the charts, was substantially as follows:

Recent studies made for the Public Education Association of Worcester help us to understand the school problems of our city, and illustrate points already made by Dr. Hall, Dr. Eliot, and other educators concerning school management in general. Through correspondence, through study of the latest printed reports, etc., data have been collected relating to nearly forty leading cities of the United States. This mass of facts has been used in preparing a series of large charts, which will remain at the Association's headquarters, No. 11 Foster Street.

One of these charts shows, by means of plotted curves, the tendencies of Worcester's school population during the last twenty-one years, particularly with reference to our complex foreign element. During the period considered the total enrollment in the schools has nearly doubled. The number of those of foreign parentage has invariably been in excess of those of United States stock, though these two curves continue nearly parallel from 1883 onward. All the curves fluctuate slightly about 1903, owing perhaps in part to the opening of parochial and private schools at that time. Of the various foreign elements represented, the curve shows the Irish to have been decidedly the leader, though at the end of the period the total number of scholars of Irish parentage was a little smaller than at its beginning. The curve next in prominence is that of the Canadian stock, which, however, in 1889 is passed by that of the Swedish. The Russian curve hardly appears at all at first, but in 1904 it stands near the 1200 point.

Another chart shows by proportional areas the relative distribution of the school funds of Worcester and of Springfield, for the year covered by the last printed reports, and also the distribution of school population for the same year among the various departments of the educational system—high schools, grammar and primary grades, kindergartens, and evening schools.

The remaining three charts, by far the most important of the series for us in Worcester to-day, present a comparative study of public school administration. All the cities of the country showing a population of 100,000 or more in the last general census were taken, and to this list were added the three smaller nearby representative cities—Springfield, Hartford and Albany. Most of these communities responded cordially to the request for information, and from the mass of facts brought together the compilations and computations presented in the tables show fairly well certain marked tendencies in public school affairs. Those of us who

> "Trust that somehow good will be
> the final goal of ill,"

believe these tendencies are toward betterment in our school system, and if our own fair city appears from the figures in some particulars to be falling into the wake of progress, our civic duty becomes evident.

One of these tendencies is toward small school boards. Only eight of the thirty-eight cities represented in this connection have boards of over twenty members; only sixteen have more than ten; fourteen have seven or fewer. New York has a large board, but each of its five boroughs is a great city in itself. Others of those still having the old-time

large boards are struggling for a change, while Worcester, because of the new wards, has a board larger by 25% than ever before, now the fourth largest in the country. The arguments for the small school-governing body have often been presented. Of course, these charts attempt only to present facts, as a possible means for arriving at principles of action.

From another column comes out strongly the tendency toward electoral rather than appointive boards. In many progressive cities the board is at present appointed by mayor or governor or board of judges, but in a large majority of cases popular vote determines who shall control this important department of civic affairs.

From a third column is conclusively shown the popular demand that school interests shall be taken out of politics. More and more cities are insisting that the best men shall be selected from the whole community, and that petty ward politics shall play no part. In some instances this popular choice is expressed through a special school election, held quite apart from the election of other officials, where, perhaps, political intrigue for selfish ends must figure for a while longer.

Another trend is toward making the school board a strictly legislative body, the executive responsibilities being delegated to specialists, who give their whole attention to particular departments of administrative work, while at the same time the dignity and independence of the school board is increased. This appears from the almost universal practice of placing the care of the school property where it belongs—in the board, rather than in the city council; from the larger authority given to the superintendent of instruction; from the growing practice of employing a special superintendent of buildings, etc.

One of the charts relates exclusively to public school finance, and brings out the growing tendency to fix by law the amount of school revenue, and thus to place the educational system on a definite footing, independent of appropriations by the city government. This amount is usually given as so many mills on a dollar of valuation. Since we are accustomed to state our tax rate differently, the chart presents the legal limit of school tax, so far as yet adopted by the cities, in terms of dollars per thousand. Worcester schools still depend upon the will of the city government for their annual appropriation. This appropriation was, however, for the past year not very unreasonable, as is shown by the column giving the average cost per scholar in thirty-five cities. At $27.28 Worcester stands a little below the average of the whole list.

The figures in general show a disposition to support generously, even if thriftily, the public schools of the country as the most important of all civic interests. In Worcester about 28 2-5 % of our total tax levy goes to public school maintenance; 15% to the care of the streets; 10 3-10 % to the fire department; 7 3-5 % to the police system, and 4 1-5% to the care of the poor. $5.12 on every thousand dollars of valuation is devoted to fitting our 23,000 young people for citizenship in the next generation. The expenditure is none too great; perhaps it will prove not great enough, for the public interest involved is of the highest importance.

From the charts we may easily see that in many respects Worcester stands fairly well in the sisterhood of cities. In others she is falling back far toward the rear. We are so proud of what our schools have accomplished in the past, and of the noble body of officers and workers in them to-day that we wish for them in years to come every possible advantage in way of organization and equipment that experience and reasonable expenditure can furnish.

All considerations should lead us to study well the school problem in all its aspects, and as open-minded, progressive citizens to admit light upon it from all directions. The Public Education Association is working for wider intelligence upon all matters pertaining to our schools, and solicits the co-operation of all who wish well for the Worcester of the future.

WORCESTER BOARD OF TRADE.

BANK BUILDING, 11 FOSTER STREET.

OPEN 8.00 A.M. TO 5 P.M. PRESIDENT'S HOURS: 1 TO 2 P.M. MONDAYS, TUESDAYS, WEDNESDAYS AND FRIDAYS.

PRESIDENT, HARRY W. GODDARD. VICE-PRESIDENT, PAUL B. MORGAN.
TREASURER, H. WARD BATES. SECRETARY, HERBERT M. SAWYER.

Directors.

IRVING SWAN BROWN, H. W. GODDARD, WM. A. LYTLE, GEORGE F. BOOTH,
RUFUS B. DODGE, CHARLES L. ALLEN, WM. H. COUGHLIN, IRVING E. COMINS,
PAUL B. MORGAN, EDGAR REED, GEO. B. BUCKINGHAM, J. RUSSEL MARBLE,
ALFRED THOMAS, JOHN A. SHERMAN, GEO. T. DEWEY, THOS. T. BOOTH,
JAMES C. STEWART, PLINY W. WOOD, REGINALD WASHBURN, GEORGE F. BROOKS.

Clerk of the Corporation, CHAS. PERKINS ADAMS. *Auditor*, CHARLES A. CHASE.

Chairmen of Committees.

Advisory—Rufus B. Fowler. Membership—Edward B. Dolliver. Ways and Means—William H. Coughlin. Manufactures—Alfred Thomas. Meetings and Receptions—George F. Booth. Mercantile Affairs—Irving Swan Brown. Transportation and Railroads—Paul B. Morgan. Statistics and Information—Irving E. Comins. Arbitration—George F. Brooks. Legislation—Rufus B. Dodge. New Enterprises—James C. Stewart. Municipal Affairs—William A. Lytle. Taxation and Insurance—Reginald Washburn. Foreign Trade—Charles L. Allen. Publication—Rufus B. Fowler. Education—J. Russel Marble.

The Worcester Board of Trade wants to keep on file at the Secretary's office a complete list of places where floor space can be secured for manufacturing and business purposes. There are calls made every day for such information. The Secretary would appreciate it if every owner of a building in Worcester used for manufacturing or mercantile business would furnish particulars of what he has for renting purposes, and if land-owners would also file a list of available building sites. State owner, location, whether store or factory, amount of floor space, amount of power available and approximate rental. If it is land for manufacturing purposes, state owner, location, number of square feet, general dimensions, any building thereon; if so, give floor space, number stories, brick or wood, power plant with horse power, and purposes last used. Also give name of railroad near it and side-track facilities. Give price that can be used as basis of negotiation.

This information is for the use of the Secretary, and is not to be used for any purpose except to locate new or present business interests. No compensation is to be asked for any lease or rental that may be brought about by the Board of Trade.

Herbert P. Linnell, Tech. '94, has been promoted by the Isthmian Canal Commission to the position of resident engineer at Colon, where he is to assume charge of water works, sewers and roads for Colon and Cristobal. In this position Mr. Linnell will have charge of the construction of a reservoir of 500,000,000 gallons capacity, and also of the installation of two large pumps and two standpipes, these together constituting one of the most important pieces of work now before the Canal Commission.

Alston B. Moulton, Tech. '92, has resigned the position which for some time he has held as assistant examiner in the United States Patent Office at Washington, to take up work in patent law with Mr. Horace Pettit of Philadelphia.

John W. Kendrick of the Tech. class of '75 was recently elected second vice-president of the Atchison, Topeka & Santa Fee Railroad Company. He will still retain charge of operations for the company, continuing the same work on which he has been engaged while holding the position of third vice-president for the same company.

Mr. Walter Hutchins and Mr. P. V. Vernon, representing the firm of Alfred Herbert, Limited, of Coventry, England, were recent visitors at the Washburn Shops. Mr. Vernon is director of the technical school of Coventry, and was especially interested in the engineering shop courses of the Institute, spending almost an entire day in investigating them.

The property known as the steel works plant, sold for a site for a cold storage warehouse, is on Bloomingdale Road, and was purchased from the four savings banks of Worcester, who secured the title to it through the foreclosure of a mortgage on it about a year ago.

The land is taken over by the purchasing company as the second step it has made in giving to Worcester a modernly equipped and up-to-date cold storage house and warehouse,

the first step being the organization and incorporation of the company.

By the transfer of the land, the purchasing company becomes the owner of a tract with a frontage of 500 feet on Bloomingdale Road, beginning at a point 147.69 feet east of the point where Bloomingdale Road intersects Grafton Street.

The land extends south from Bloomingdale Road to the land owned by the Boston & Albany Division and provides ample territory for building and operating a cold storage plant, which it is intended shall be sufficiently large to meet the requirements of Worcester for several decades.

The plans call for a main building, 85 feet frontage on Bloomingdale Road with a depth of 86 feet, to be six stories high and absolutely fireproof. It will be equipped with every modern convenience found in the most complete cold storage house, and it is expected it will be ready to put in commission about April 1.

The first floor of the main building will be devoted to the company's offices, which will be ideally arranged.

There will be two storerooms finished on the first floor for rent. The other stories of the plant will be equipped for the company's use. The building will provide close to 400,000 cubic feet of space for storage purposes.

At a recent meeting of the Committee on Membership of the Board of Trade, these were elected to membership: E. G. Connette, general manager Worcester Consolidated Street Railway Co.; Winthrop Hammond, clothier, 526 Main Street; H. H. Hayes, president Corset H Co., 154 Front Street; J. A. Whiting, manager Worcester office of Remington Typewriter Co., 51 Pleasant Street; District Attorney George S. Taft; H. D. Stebbins, manager Worcester branch of New England Telephone & Telegraph Co.; Simon H. Friedman, attorney, State Mutual Building; Oliver M. Dean, broom manufacturer, 170 Austin Street; Dr. William O. Bloom, dentist, 408 Main Street; Victor Bergwall, druggist, 254 Main Street; William Backstrom, manager Swedish Importing Co., 18 Central Street.

Governor Curtis Guild, Jr., in making up the committee of his Executive Council, gave Worcester places of prominence. Hon. William A. Lytle is named on Committees of Pardons, Finance, Harbors and Public Lands, Charitable Institutions, Railroads, and State House.

The Chandler Street plant owned by the American Card Clothing Company, corner Bellevue Street, known as the Charles F. Kent place, has been sold to the Baldwin Chain & Manufacturing Co., which now oocupies the plant on Hermon Street. The increase in the demand for automobile parts made by the Baldwin Chain & Manufacturing Co. has forced them into larger quarters.

The Webb Pink Granite Co. of Worcester, having its quarries in Milford, has received the contract for furnishing all of the cut stone required in the construction of the new building of the Commercial National Bank of Chicago, which is to be erected this year at the corner of Clark and Adams streets, in that city. The building is 180 by 190 feet, and is to tower 20 stories into the air. The contract with the Commercial Bank people by George D. Webb, president of the Webb Pink Granite Co., provides for the delivery of the entire order in Chicago before September 1 of this year.

Walter H. Blodget, Jr., has been elected a director of the Boston Fruit and Produce Exchange for a term of three years, at the annual session of the Exchange in Faneuil Hall market building, Boston.

There are nine directors on the Exchange board, and three are elected each year for three-year terms. Mr. Blodget was second highest in number of votes in a field of four. He has been a member of the Exchange only a year.

The Boston Exchange is one of the largest of the kind in the world. There are over 700 members, and a seat in the Exchange costs $300 now.

David McTaggart, treasurer of the Worcester Warp Compressing Machine Company, inventor of the Worcester warp compressor and cross-wind compressing spooler, died suddenly January 13. Mr. McTaggart was born in Glasgow, Scotland, June 2, 1843, and was the son of James and Ann (Stuart) McTaggart, and came to this country with his parents at an early age. Mr. McTaggart's business career began in the machine shop of the late George Crompton; but he had a desire to enter the textile field, and went to New London, Conn., where he entered a mill to learn the woolen business. After assuming the superintendency of several mills, in 1880 he associated himself with his brother, James McTaggart, Jr., in the manufacture of woolen goods at West Fitchburg, Mass.

Mr. McTaggart had an extensive knowledge of machinery as well as textiles, and he realized that with all the improvements being made in the machinery for woolen and worsted mills, the dressing-room remained practically unchanged. So to solve a problem in his own plant he conceived the idea of a machine which later resolved itself into his well-known warp compressor for woolen and worsted mills, and was later applied to cotton and carpet mills as well. In 1895 he began building this machine, which later led to the development of an extensive line of warping and dressing machinery.

Mr. McTaggart's knowledge of the necessities of mills, and the practical as well as the theoretical working of the same, enabled him to adapt his machines to their needs, as few machinery builders have been able to do.

Mr. McTaggart is survived by his widow, four daughters and one son, David D. McTaggart, who will continue the business.

The following testing apparatus has just been bought for the electric railway engineering department: two Thomson railway wattmeters, for 300 amperes at 600 volts, fitted with special jewelled bearings, for use on moving cars; one Weston magneto-electrical tactometer, for speed measurements; and one Armstrong recording ammeter for 300 amperes and 600 volts, complete with storage batteries and motors for driving this recording mechanism.

THE WORCESTER MAGAZINE

Vol. IX. MARCH--1906 No. 3.

Magazine and Municipal Comment.

Assessments and Taxation.

Eli Thayer and the Admission of Oregon.

Banners of the World—Our Flag.

DEVOTED TO

Good Citizenship and Municipal Development

PUBLISHED MONTHLY BY THE BOARD OF TRADE

WORCESTER, MASSACHUSETTS,

U. S. A.

$1.00 A YEAR. 10 CENTS A COPY

CENTRAL SUPPLY CO.

Steam and Gas Supplies

Wholesale and Retail

Wrought Steel
Cast Iron
and Brass

PIPE

All Weights
and Sizes
1-8 to 24 in.

Automatic Sprinklers

Brass *and* Iron Fittings

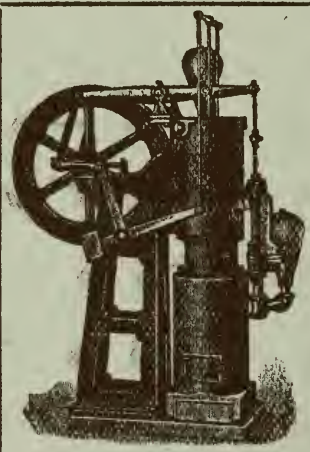
Tanks

Inspirators

Injectors

Traps

Hand *and* Power Pumps



Ericsson Hot Air Engines

Oil Filters

Wind Engines

Brass *and* Iron Valves

Towers

Pipe Tools

Railing Fittings

Pipe Covering

Hose, Etc.

The Leading Makes of

Steam and Hot Water Heaters

Radiators of all kinds and sizes

Send us your address and receive estimate (free) from responsible fitter for heating your home, store or factory.

Pipe cut to sketch. Complete Steam, Automatic Sprinkler and Heating Outfits. Pumps and Pumping Appliances of every description.

35 and 37 Waldo Street

WORCESTER, MASSACHUSETTS

WORCESTER COUNTY INSTITUTION FOR SAVINGS' NEW BUILDING.

The Worcester Magazine.

VOL. IX. MARCH, 1906. NO. 3.

This magazine is published by the Worcester Board of Trade. Its reading pages are devoted solely to municipal development, good citizenship and the business welfare of Worcester. Space in these pages is not for sale.

MAGAZINE AND MUNICIPAL COMMENT.

How Property is Assessed

At a recent meeting of the Twentieth Century Club, Mr. George B. Hurlburt, chairman of the Worcester Board of Assessors, read a paper on "Assessments and Taxation," with some reference to local conditions. Mr. John B. Bowker, former city auditor, spoke on municipal finance, making comparisons of Worcester and other Massachusetts cities, demonstrating that this city has a financial record of which it need not be ashamed.

Comparatively few persons are intelligently familiar with the system of taxation, and, as Mr. Hurlburt says, "few questions agitate the people in a general way more than the question of taxation." The taxation laws of Massachusetts are such that the people may feel reasonably safeguarded, for there is no state in the Union where the subject has been given more careful consideration than in the Massachusetts Legislature.

Mr. Hurlburt gave in detail the method of arriving at the maximum sum that can be raised by the City Council for municipal expenses and the work of the Assessors to provide for that sum. In reference to values of business property, the chairman of the Worcester Board cited recent land sales on Main and George Streets, and Main and Foster Streets, one lot selling for $20,000, where it had been assessed for $20,500, and the other lot selling for $130,000, where it had been assessed for $122,500. There was an over-valuation of the sale price of $500 in one case, and an under-valuation of the sale price of $7,500 in the second case. It was also shown that, with the exception of Boston, where the highest assessed land valuation is $222 a square foot, Harrington Corner comprises the most valuable piece of land in the Commonwealth, being assessed for $35 a square foot.

The matter of investments was elaborated upon, the fact being brought out that Worcester taxpayers hold 275,000 shares of non-taxable stocks. The changes in business methods, from local to Massachusetts corporations, was gone into at length, the papers showing that losses on personal property are experienced where these business concerns become State corporations, the stock in said corporations not being taxed here, although some of it comes back in the form of corporation tax, providing the holder of the stock is a resident of Worcester. When the Crompton & Knowles Loom Company became a Massachusetts corporation, they were assessed $1,000,000 for stock in trade, which was not then taxable here. A

short time ago the Boston Store became a Massachusetts corporation, which takes away a tax on stock in trade of over $300,000. While the corporation tax comes back to Worcester from the State, it is not used to reduce the tax rate. Mr. Hurlburt takes a cheerful view of the situation, and his prediction is that if the city will keep its loans within the $300,000 limit within the next few years, Worcester will have the lowest tax rate of any city in the State, and be able to attract outside manufacturers and business men.

Power for Commerce Commission

The directors of Worcester Board of Trade comprise thirteen manufacturers, six of whom represent industries the most important in the country in their respective line. One director is a mercantile shipper of considerable importance in New England. The majority of the remaining members of the Board are either engaged in mercantile trade or prominent in a profession. These men know what is wanted for a railroad rate bill, and have given the proposed national legislation in this respect careful discussion and consideration. A year ago the board adopted a resolution asking for such legislation as was recommended by President Roosevelt in his message to Congress, it being believed at that time that his views of the question were sound and equitable. Since then the rate bill has been discussed the country over, and some of the more able writers have contributed magazine articles that have had strong bearing on this particular legislation. The Worcester Board of Trade wants such legislation for Worcester manufacturers and shippers as shall give the Interstate Commerce Commission powers that will give the shipper immediate relief. A resolution that has been forwarded to Senators Henry Cabot Lodge and W. Murray Crane and Congressman Rockwood Hoar is as follows:

Resolved, That the directors of Worcester Board of Trade urge on the senators from Massachusetts in the Congress of the United States the enactment of such legislation as shall give the Interstate Commerce Commission power to carry its decisions into effect promptly, subject to prompt judicial review in the United States courts, and that a copy of these be sent the senators from Massachusetts.

Boston's Financial Debt

Mr. A. P. Cristy, editor of the Worcester Telegram, was a speaker at the banquet given by Worcester Merchants' Association a few weeks ago. He made some pretty pointed statements about the funded debt of Boston which was surprising to every man present, but the speaker had his figures to prove the statements. Not only is Boston the worst off city in the United States so far as debt is concerned, but is so deeply in debt that the city has to go to the Legislature every time a loan of any sizable amount is needed. Mr. Cristy apparently worried the Boston City Hall officials, for Mayor Fitzgerald has a plan to relieve financial conditions down there. He has given the statement of the Worcester speaker some attention and summoned the members of the press and representatives of leading business organizations to meet him and talk over the financial condition of the city.

Mayor Fitzgerald told this representation that met him that he intended putting a tax of thirty cents on each tax bill this year to go toward paying the interest on the sinking fund loan. He says he will do this if it defeats him for re-election. He prefaced his remarks by saying that three years ago a sinking fund loan of $650,000 was made by the City Council, and that since that time it has been found necessary to borrow the money with which to pay the interest on that loan. Another thing Mayor Fitzgerald said was that Boston had the largest debt of any city in the country, but it needed and must have more buildings. Building permits have dropped from 2,100 to 500, and that practically means stagnation. He wants the City Council to give him $50,000 to use in advertising the city and its historic associations, and he feels sure such method will attract people from the outside to the city. Col. W. A. Gaston added a

few coals to the fire by saying that Boston had gone park mad and included the State with the city in this statement. Both, he said, were too extravagant in this direction. He said Boston was paying altogether too much of the State's expenses. The general tenor of the remarks of business men was that Boston is in a poor way financially and wants to do something to get more business.

Competing Line to Boston

The Worcester Consolidated Street Railway Co.—or more properly speaking the Worcester Railway and Investments Co., which owns and operates the Worcester Consolidated—has acquired the stock of the Marlboro & Westboro Street Railway Co. This is important to Worcester, as it gives a competing trolley line to Boston, although not an express line. The running of cars to Boston, through Northboro, Westboro, South Framingham, Wellesley and the Newtons in connection with the Boston & Surburban line has already begun, and gives Worcester an opportunity to take the trip and strike the business sections of these towns and cities. The valuable feature of the new deal is that it brings Worcester in still closer connection with a purchasing people who can come to Worcester and patronize the local merchant. While the Boston & Worcester line gives quicker service, being a trolley air line, there is no question that the latest arrangement will meet with approval and give entire satisfaction from a trading standpoint, and that is the main purpose of all these suburban lines. The new line runs through the business section and touches more people who travel by trolley than is reached by the trolley express route. The tendency of this new line is to help Worcester, putting the suburban population more completely in touch with her business houses. The latest system also again brings Worcester in trolley touch with Westboro direct, that branch of trolley service being cut off a year or more ago.

Want Alcohol Free

When Prof. Elihu Thomson, chief electrician of the General Electric Co., came to Worcester in January to lecture before the Board of Trade, he made a strong plea to the Board members for free alcohol. Worcester is a great manufacturing city and free alcohol means a great deal to the manufacturers of the city. The facts set forth by Prof. Thomson concerning cost and profits of grain alcohol were startling to many of his hearers, as little general agitation has been made concerning this needful commodity. The Board of Trade directors last summer went on record in favor of a removal of the tax from grain alcohol, having had the question under discussion for several months. The Boutell bill was then before Congress, and at the instance of Mr. J. Russel Marble, of J. Russel Marble & Co., the directors sent a communication to the Massachusetts delegation in Congress asking that the bill be supported in the interest of Worcester manufacturers and users of alcohol for manufacturing and for the arts. This action has been again called to the mind of Massachusetts representatives and senators by this Board. Hearings are now in progress before the Committee on Ways and Means, and some of the principal manufacturers and scientists in the country have appeared before it in support of the measure. Prof. Thomson realizes as much as any one the importance of having the tax removed and what it means to the manufacturers of this country.

There is a strong and legitimate demand for such action all over the country. The maintenance of the present almost prohibitive tax upon industrial alcohol is a serious handicap, not to one, but to hundreds and even thousands of enterprises. This tax amounts to $2.07 a gallon, or about 1,200 per cent. on the cost of manufacture. The United States is the only important manufacturing and commercial country in the world that makes no distinction between alcohol used as a beverage and high proof alcohol used in the arts and manufactures. The rapidly increas-

ing use of automobiles has caused the owners of these machines to be almost unanimous in their demand for the removal of the tax. Many new industries for the manufacture of articles that under existing circumstances cannot be profitably made in this country would spring up and almost all the old ones would be stimulated and benefitted, thus giving additional employment to labor and lessening the cost to the consumer. Prof. Thomson said before the committee: "Alcohol is produced and sold in Cuba for from twelve to fifteen cents a gallon, and I have found by tests that it is an excellent fuel for the running of engines. At fifteen or twenty cents a gallon, I think it would eventually displace gasolene. Burned in similar engines it produces no smoke or soot, or disagreeable odors. Since alcohol mixes with water freely a fire started with alcohol is one of the easiest to extinguish. This is not the case with gasolene or even kerosene, which floats on water and continues burning."

The free use of this article would make cheaper and better drugs, cheaper, better and safer paints and varnishes, cheaper and better power for the tens of thousands of small engines in use over the country. The government now derives a revenue of not more than $400,000 a year from the tax upon this alcohol, and its removal would cause insignificant loss. Such alcohol could and would then be largely used for lighting, heating, cooking and refrigerating purposes.

Does Not Deserve Scolding

It does not always happen that a fire department is able to get into effective working order immediately after an alarm is sounded. There are delays. Some are excusable and some are not excusable. This is true of every large city, and Worcester is no exception. If the Worcester firemen make occasional false moves, and appear to be losing valuable time when a block is burning, it does not necessarily follow that the department is wholly incompetent. It is no reason for general criticism that is sometimes heaped upon the heads of Fire Department officials.

The recent Stevens' block fire is an instance of where the department has been criticised from various sources. The block is old style in construction, filled with elevators and air spaces and drafts, and was burning furiously when the department reached it. There were delays in matters of water, getting lines into convenient places and reaching certain sections of the building. Nine-tenths of the number of persons who saw the start of the fire expressed an opinion that the entire block was doomed. Yet the flames and losses were confined to the middle section of the building, both ends being untouched. It is results that count. If there were delays of water service, coal and a temporary lack of proper fire-fighting ability, as has been said of the department in this particular case, the objects sought for were reached. The building was saved from total loss and the loss by fire and water comparatively small.

It should be remembered that Worcester is one of the few cities in the country that has not had a conflagration for more than half a century, and never had but one in its history. It is said that Worcester is favored in conditions at the time of its great fires—that luck has been with Worcester. This is idle talk. Worcester has had as many or more alarms every year than any city of its size in the country, and the elements have been against the department as much as any department of a large city. Worcester has had its threatening fires, but never have the flames got beyond the control of the department. The largest of the Main and Front Street blocks have been visited by fire that threatened a general conflagration, and not one of these fires went beyond the limit of department control. The National Board of Fire Underwriters gives Worcester a high rating, and considers it one of the safest of American cities from a fire-fighting standpoint. There may be delays, there may be mistakes—and where is there a city that has not criticised its department for these same things?—but results, and they are what count, are reached. The annual fire loss in Wor-

cester is exceptionally small, a yearly average of less than $175,000 for the past thirty years.

Littlefield Pleads for Worcester

Congressman Charles E. Littlefield of Maine is looking out for New England when it comes to making a railroad rate bill. The Hepburn bill almost unanimously passed the House of Representatives, but is certain to be killed in the Senate, where it is now under debate. Congressman Littlefield sees a dangerous condition of things for Worcester should the Hepburn bill become a law, for on the floor of the House of Representatives he stated that Worcester was a city of preferentials. He said he would not consent to put the fate of Worcester into the hands of any commission to say what its future shall be, whether it shall live or die, whether it shall flourish, or whether it shall vanish as a manufacturing industrial centre. His opposition to the Hepburn bill was one of the features of the House speeches, and his reference to New England and her cotton industry and Worcester and her manufacturing industry is here given:

"Take into account, if you please, the cotton industry. We have cotton mills in the South, we have cotton mills in the North. Now, I happen to know, under existing conditions, with the favorable hours of labor and the lack of embarrassing labor legislation prevailing in the South, and the facilities they have for the employment of child labor, that to-day it is all the people in New England can do, with their cotton mills, to compete with the cotton mills in the South. A preferential exists in favor of the cotton mills in New England. They transport their raw material at a cheaper rate on a long haul than the mills in the South can from the same point of the supply of the raw material. They ship their manufactured products out in precisely the same way, on a long haul, at a cheap rate.

"Do I want to turn over to the tender mercies of a political commission of seven the existence of the cotton industries of New England? Within two weeks I have had it stated to me by distinguished gentlemen who believe in this legislation and are anxious to see it prevail, they hope under its terms to destroy the preferential charges existing in favor of these New England industries, in order that the industries located near the raw material can have the benefit of what they call their natural proximity thereto. They conceded that by this indirect method they expected to transfer the cotton manufacturing industry from the North to the South. I do not propose by my vote to put in the hands of seven men the question as to whether there shall still be a Fall River, a Lawrence, a Lowell, a Manchester, a Biddeford, or a Lewiston. Their interests are too vast. There are too many millions involved. The employment of too many people is dependent upon it.

"I will not take the chances with any political tribunal without revision or appeal and put into their hands these vast business interests. Worcester, the Heart of the great Commonwealth of Massachusetts, represented upon this floor by a worthy and able son of a most distinguished sire, and presenting to-day the finest illustration of diversified manufacturing industry that can be found in the confines of this great republic or in any other land, is absolutely dependent upon its preferential long haul for the shipping in of its raw material and the shipping out of its manufactured products. I will not consent to put the fate of Worcester into the hands of any commission to say what its future shall be, whether it shall live or die, whether it shall flourish or whether it shall vanish as a manufacturing industrial centre; whether its manufactories, now busy and active, profitably employed, shall be silent, filled only with rusting machinery, and its houses, now occupied by an industrious people, shall in the future be filled with poverty, want and distress."

Respect for the Boys' Laws

There is much said in these days about making laws for children by state legislatures. Did any one ever take into consideration that the laws of the boy must be respected? A Colorado judge, in speaking of proper treatment of children, voiced a fundamental truth when he said, "You must respect the laws of these lads before they will respect your laws."

Thereon hangs much of the weight of the whole juvenile problem. The failure of states, cities and officials to keep this truth in mind has led to much of the failure and half success which has attended the efforts at solving some of the associated problems which we lump together as the problem of the juvenile offender. A boy lives in a world by himself. No older person can enter that world, but we may look into it, and must do so if his work with boys is to accomplish anything worth while. Boys have their codes of honor and bravery, and they are in no wise affected by the rulings of the older people. These codes must be recognized, tacitly, and must be met in the proper spirit. Every truant officer who is worth his salt has encountered this fact and has profited by it.

A boy hates a sneak. He hates a sneak in uniform or with a badge as heartily as among his every-day associates. He appreciates "fair play" and "a square deal." A truant officer, for example, bearing in mind the law of boydom, can be relentless and efficient and yet have practically no enemies among the boys who are confirmed truants. If he catches them by fair means and treats them with what the boy recognizes as justice, they will meet him half way.

Board of Trade New Booklet

The superior advantages of Worcester as a manufacturing and residence city are briefly but clearly set forth in a booklet which has been issued by the Board of Trade. It is a publication of 120 pages compiled in the office of the secretary, and on the cover is the statement that it is "a descriptive manual of a great manufacturing city." The first edition of the book is prefaced by the annual report of the Board for 1905, while the remaining pages are devoted to "Worcester of 1906." Worcester is treated as a manufacturing city in one section and as a residence city in another, and a dozen or more illustrations are used to show off the public buildings, schools, parks, playgrounds, new Union Station, the proposed central manufacturing plant, and other subjects treated in portrait form. A distinctive feature of the booklet is a list of "Things made in Worcester," comprising upward of 3,000 separate articles, and covers twenty-seven pages of the book.

Savings Bank's New Home

The Magazine presents as a frontispiece this month the new granite home of the Worcester County Institution for Savings at the corner of Main and Foster Streets, where for so many years stood Continental Hall, known to the earlier inhabitants of the city as the First Universalist meeting-house. The height of the building is to be 58 feet, which is higher than the walls of the hall which place it takes. The architects are Winslow & Bigelow of Boston and the builders are Norcross Brothers Co. of Worcester. The exterior is of Troy white granite with a Greek Doric border. At the front are four columns each 30 ft. high and 4 ft., 8 in. in diameter. The entrance to the building is from Main Street, through ornamental bronze doors. These give admittance to the vestibule, and beyond are revolving doors leading to the large space for the accommodation of patrons of the bank. The banking rooms will receive its light through large windows on the north side and through the domed ceiling. The floor will be of Mosaic design and the ceiling of Gustavino tiles and glass. The bank counter will be of English veined marble and the grill work will be of wrought iron wiped green. The building will be used exclusively by the bank. The building will be absolutely fireproof, all the desks and office fittings being of sheet metal.

ASSESSMENTS AND TAXATION.

The following paper on "Assessments and Taxation," with some reference to local conditions, has been revised for the Worcester Magazine by Chairman George B. Hurlburt, of the Board of Assessors, who delivered it before the Twentieth Century Club.

PROBABLY few questions agitate the people in a general way more than the question of taxation. There is also considerable difference of opinion regarding methods and laws of taxation, but I doubt if there is any state in the Union where the subject has been given any more careful consideration than in our own Legislature at Boston. While there may be instances of seemingly unjust legislation, taken as a whole Massachusetts may well be proud of her tax laws.

In order to explain the method of arriving at the maximum sum that can be raised by the City Council for municipal expenses, I will say at the beginning of each municipal year we are requested by the city auditor to send him the valuation for the three preceding years, such valuations being reduced by the amount of all abatements. The reason for this is because the city government cannot appropriate for municipal expenses more than $12 per $1000 on the average valuation for the last three years, but this does not include what can be raised for interest money and sinking funds, or State or county tax. In the city of Boston the limit is $10.50 per thousand. In making our valuations we take the land, buildings and personal property, each by itself. Each is required to be assessed at a full fair cash valuation.

In January we start on our land valuations, which take us several weeks to complete. Since the electric cars have come into existence there have been many changes in land values, the inside, residential property having decreased in value and the outside property increased. This has caused us to make some revision in values, and in some places we have had to make concessions. Some people have an idea that if they purchase a parcel of land at a higher value than it is assessed, we single them out for a raise in value, but we never do this unless we go over the surrounding land also, and equalize one with the other. Since I have been a member of the Board of Assessors I have frequently been told that land values in the business portion of the city, particularly on Main Street, are too low, but if I ask the question how much per foot a certain parcel of land is worth, it is often put at a lower price by my informant than we have it assessed for, or I am given the answer, "Well, I can't say what it should be, but it is not high enough." There are but few changes of property owners on Main Street, but I will speak of two that have recently come to my attention. The lot at the corner of Main and George Streets was purchased by the Thule Society for $20,000, while our value is $20,500; at the corner of Main and Foster Streets, the Worcester County Institution for Savings paid for the property recently purchased by them $130,000, while our valuation is $122,500. I give this as an illustration to show that we are not so very far off on values on Main Street. In fact, we go over the land on Main Street and Front Street more often than we do any portion of the city. Harrington Corner, at Main and Front Streets, is assessed at $35 per square foot, this being the highest assessed land per square foot in Worcester. The highest price per foot for land assessed in Boston is $225 per square foot, which is the highest, without doubt, in New England; in Fall River, $15.64; in Lowell, $14, and in Cambridge, $10. We are constantly changing and equalizing our land values, and I think what we have accomplished in this direction will compare favorably with any other city.

After we set our land values for the year, the next thing is personal property valuations, or what we call "all

other ratable,'' which includes stocks, bonds, money, furniture, income and other taxable investments. To find out and put values on this class of property is a difficult problem. Some of our information is obtained from records and otherwise, and some of it is done by what we call dooming, which is adding a certain sum to a person's personal account to take the place of something he is supposed to have.

I will say that every year we add to our personal valuation from $500,000 to $1,000,000, but we lose by parties changing their investments from taxable to non-taxable securities. They come in and make returns to us. We also lose on personal when a local business concern becomes a Massachusetts corporation, as we can only assess them then locally for real estate and machinery, and not for stock in trade or other personal. As an illustration: When the Crompton & Knowles Loom Company became a Massachusetts corporation, they were assessed over $1,000,000 on stock in trade, which was not then taxable here. I notice the Boston Store has recently incorporated under Massachusetts laws for $350,000. Last year they were assessed for stock in trade and other personal about $327,000. While we lose these amounts on our personal property taxable here, this is not, in one sense, a loss, as it comes back in our corporation tax, providing the stockholders reside here, but the corporation tax is not used to reduce the tax rate.

''The all other ratable'' cannot be itemized for any one, not even to the party who is assessed; neither are the private books referring to these items, ''all other ratable'' personal property, open to inspection to anyone excepting the Assessors and their clerks and the tax commissioner and his deputy, except by order of a court. The reasons for this are very apparent, as it prevents anyone securing information from us to escape just taxation, and his redress is to make a return to us of what he has. A person can make a statement in the spring, as we advertise every May in all of the daily papers, setting apart from May 1st up to and including the first Saturday in June for any person liable for taxation on personal property to make a return between these dates, so that anyone has the remedy in his own hands for any over-taxation on the part of the Assessors, if he chooses to avail himself of it. The law says that we may or may not include real estate in our advertisement, but we have included this also for the past few years. A person aggrieved by taxes assessed to him may, within six months from the date of his tax bill, make application for an abatement, and in case of personal property cannot get an abatement unless he has filed a statement as prescribed by law. When we advertise in May, unless the applicant gives a reasonable excuse for his delay, or unless such tax exceeds by more than fifty per cent. of the amount which would have been assessed to him if he had seasonably brought in his list, or in other words, if, for an illustration, he has made no return in May and is assessed for $2000 personal, and wishes to make a return that he has only $1000, we are obliged to add 50 per cent. or $500 to the $1000, and make him an abatement for tax on $500 only.

After we set our personal valuations the next thing is the new building valuations. We copy the permits obtained from the superintendent of public buildings into what we call the building book, under the different street headings, and begin our work in Ward 1, following the streets in our book and setting our valuations until our work is complete. Some people have an idea that we raise values when we see improvements, such as painting and repairs. This is a wrong idea, as we like to see houses kept up in proper condition, and we only look at additions. When our valuations are complete, and our transfers of real estate that we get from the Registry of Deeds at the Court House are all made, together with the work received from the sixteen assistant assessors, who have canvassed their respective precincts for poll taxes, stock in trade, machinery, and live stock, the new books for the year

are then copied. The work is then checked back to see if there are any errors or omissions. We then foot our books and the total value is ascertained of all the real estate, personal property and poll taxes. Then the rate per thousand is determined on by the rate per thousand it will take to raise the amount called for in the city, county and State warrants. In speaking of personal property I will add that every new store or shop brought in by the assistant assessors is also visited by one of the Assessors before the value is put into our books.

Our valuation in 1905 was:

Real estate,	$95,669,850
Personal estate,	25,195,652
Total,	$120,865,502

In 1895 our valuation was:

Real estate,	$71,104,650
Personal estate,	16,976,166
Total,	$88,080,816

This is an increase of $24,565,200 on real estate, and $8,219,486 on personal, making a net gain of $32,784,686 in ten years.

Our expenses for the Assessors' Department in 1895 were $9,103.06; in 1905, $14,069.03. This included an adding machine, which cost us $375.

Last year the State collected $5,856,487.40 taxes on Massachusetts corporations, of which $1,791,686.34 was upon business corporations, and $4,064,801.06 on public service corporations; of this sum the Commonwealth received $1,358,252.13, Boston $1,038,485.19, Worcester $186,105.76, Cambridge $91,339.51, Lowell $77,098.97, Fall River $28,869.54. Worcester showed an increase of $14,131.12 over the preceding year. The public service corporations are mostly investment stocks and are non-taxable, being Massachusetts corporations. In the Assessors' office can be shown the statement of one of our most estimable and foremost citizens, who is assessed on personal property less than $20,000, and who makes a statement every year. If you did not know the circumstances, you would say this amount was ridiculously small, but the party referred to probably owns close to $1,000,000 of Massachusetts corporation stocks. The taxpayers of Worcester have probably $25,000,000 invested in Massachusetts corporation stocks, $17,000,000 of which is public service corporations, such as railroads and gas and electric light companies' stock, and about $8,000,000 in business corporations, the tax of which is collected from the corporations themselves and returned to the cities and towns where the share-holders reside, the Commonwealth keeping the tax on the share-holders outside of the State. Speaking of investments of our citizens in such Massachusetts coporations, there are owned by citizens of Worcester, for an illustration:

11,773 shares of Am. Tel. & Tel. Co.
13,915 shares of B. & A. R. R. Co.
7,627 shares of N. & W. R. R. Co.
7,303 shares of N. Y., N. H. & H. R. R. Co.
5,600 shares of Fitchburg R. R. Co.
3,870 shares of Prov. & Worc. R. R. Co.
3,148 shares of B. & M. R. R. Co.
4,842 shares of N. E. Tel. & Tel. Co.
2,331 shares of Boston & Phil. S. S. Co.
1,487 shares of Boston Towboat Co.
2,968 shares of N. L. N. R. R. Co.

And there are many others. This will account in a small degree for the reason we do not get more personal property assessed. I am aware that our valuations may not be perfect, and can be improved upon. All told, business and public service corporations of Massachusetts, there are close to 275,000 shares held in this city which are non-taxable. I wish to call attention to the fact that Worcester receives more than twice as much corporation tax as Cambridge, almost two and a half times as much as Lowell, and six and a half times as much as Fall River, Worcester being the second largest city in population, Fall River, Cambridge and Lowell following next in order. This shows that considerable of our personal is invested in Massachusetts corporations.

There is also one thing that I would most heartily recommend, and that is that to intelligently assess the outlying land, we are badly in need of plans. The city of Brockton, whose population is a little over one-third the size of Worcester, has plans of every foot of land within the city limits. At the rate we are getting the plans to-day we shall not be able to get them in twenty years. If the City Council would give us $1500 to $2000 yearly from the license money, we should probably be able to have them in less than ten years. Of our annual appropriation, $1500 to $2000 is paid to the engineers each year, and it is very important that we should have these plans.

The tax rate of Worcester decreased 40 cents per thousand last year. Of thirty-three cities and one town in the Commonwealth (the town being Brookline), only seven showed reductions in the tax rate. These were Worcester, Taunton, Everett, Gloucester, Pittsfield, Northampton and Woburn. All of the rest showed an increase excepting Haverhill, which rate was the same as the preceding year. Worcester leads all cities in real estate valuation outside of Boston, as well as total valuation and number of polls assessed, and is fourth in personal property valuation, being led by Boston, Fall River and Brookline. There are only six of these thirty-four who have a lower tax rate than Worcester. These are Brookline, $12; Springfield, $15.40; Boston, $16; and Waltham, Lawrence and Beverly $16.80 each. Holyoke and Northampton have the same rate. The cost of running the Assessors' Department is less than it costs to run Boston, Cambridge, Lowell and Newton.

In conclusion, let me say that if the city will keep its loans within the $300,000 limit for the next few years, I will prophesy that Worcester will have the lowest tax rate of any city in the State, and be able to attract other manufacturers and business concerns to swell our numbers. Taxes sometimes look large to some of us, but when we see some other cities that are worse off than we are, it makes us feel better satisfied, and inspires us to still do something better.

GEORGE B. HURLBURT.

I am an American, and I confess that it is awfully humiliating to me to travel round the world and never see the American flag except on the homes of the United States consuls or diplomatic officers—no American flag in any port abroad. Here is one of the most powerful and one of the wealthiest countries in the world, a maritime country, with an enormous coast line, over 10,000 miles in extent, with great harbors and great rivers, with a commerce last year, exports and imports, amounting to two billion six hundred-odd million dollars, with iron and coal enough to supply the whole world, with forests without limit, with skilled mechanics and plenty of them, and yet this great nation has permitted its commercial rivals on the oceans to seize upon the great pathways of the seas and exclude us almost entirely from them. I say, to me, an American citizen, it is humiliating beyond expression.—Senator William P. Frye, in United States Senate.

ELI THAYER AND THE ADMISSION OF OREGON.

[*Continued from the February number.*]

NONE of the reasons or arguments of those who opposed the bill to admit Oregon had weight with the Representative from the Worcester district; some of them he considered unworthy of a great reform party which the republicans claimed to be. But he did not question the honesty of those who were governed by them, and exhibited more charity towards those from whom he differed than they extended to him. His argument was presented with his usual clearness and force. Some parts of his speech are here given:

"Mr. Speaker: My colleague (Mr. Dawes) who has just addressed the House is unable to see how an honest Representative of the State of Massachusetts can vote for the admission of Oregon. Well, in the exercise of charity, I can see how a Massachusetts Representative, both honest and patriotic, can vote against the admission of Oregon. He can do it by not comprehending the question, or he may do it in obedience to party dictation. I will now show my colleague how an honest Representative can vote for the admission, if he will listen to my argument and the reasons which I shall give in defense of my position.

"Mr. Speaker, I think this is a strange necessity that compels the northern representatives upon this floor to give their reasons for their votes for the admission of another free state into this confederacy. Sir, I shall vote for the admission of the state of Oregon without hesitation, without reluctance, and without reserve. So far as my vote and my voice can go, I would extend to her such a welcome as becomes her history, as becomes her promise for the future, and such as becomes our own high renown for justice and magnanimity, a welcome not based on contemptible political calculation, or still more contemptible partisan expediency; but such a welcome as sympathy and friendship and patriotism should extend to another new state; such, sir, as becomes the birthday of a nation.

"This people comes before us in accordance with the forms of law, and upon the invitation of this House; and it is too late to apply a party test upon this question. On the 19th of May last, a vote was taken in the Senate upon the admission of Oregon, and eleven republican senators voted for her admission, while six republican senators only voted against her admission; and, sir, I have not heard of any attempt, on the part of the six senators who voted for the rejection of Oregon, to read out of the republican party the eleven senators who voted for her admission; and even if that attempt is now to be made, we will see whether it is in the power of a minority to read a majority out of the party."

After a tribute to the courage, enterprise, and sterling qualities of the early settlers and the people of Oregon, he continued:

"In the territory they have established our free institutions. There, sir, strong and deep, they have laid the foundations of a free state, and they come here, like the wise men of the East, not asking gifts, but bringing gifts. What do they bring? Why, sir, the trophies of their own labor, the evidences of their own worth. They present schools, churches and workshops. . .And what are we doing here? Why, sir, quibbling about things which are comparatively unessential, and which pertain exclusively to the people of Oregon, and not to us or our duties here; quibbling about points which, if New York or Massachusetts were in the place of Oregon, would secure some votes on this side of the House against their admission. Massachusetts, which you know, sir, I

never defend anywhere, even Massachusetts does not allow the negro to be enrolled in her militia.

"What law of reformation is this? It is the pharisaical law of distance, distrust, and derision. It is not the Christian law of contact, confidence and communion. The Pharisees denounced the founder of Christianity as 'the friend of publicans and sinners.' That class would repel all who do not agree with them to the fullest extent. Shall we pursue a similar course in relation to the people of Oregon? Is it wise to do so? Is it expedient to reject their application on such grounds?

"What objections do republicans present to this application? They say there is not sufficient population, and they claim that it is their mission to see that the democratic party shall recover its consistency. At whose expense? At the expense of the consistency of the republican party. I submit that it is better for the republican party to preserve for itself the consistency which it possesses, rather than attempt to recover for the democratic party the consistency which it has lost.

"The republican party in the House, without one exception, so far as I know, voted for the enabling act, inviting Oregon to come here with a constitution to be admitted as a state. I have no disposition, and there is no need, to inquire here what is the population of Oregon; for, as a republican, I am pledged to no rule on this subject. I opposed, as did my colleague, and my friends on this side of the House, the restriction which was put upon the territory of Kansas. We protested against it then, and protest against it now. We have no sympathy whatever with that restriction, and are ready, at any time to give an honest vote for its repeal.

"Another objection is urged against the clause in the constitution of Oregon which excludes negroes and mulattoes from that territory; and, in addition, provides that they shall not bring any suit therein. It is said that this is in contravention of the Constitution of the United States. This I do not admit. But what if it is? The constitution of the people of Oregon is not submitted to our vote. We cannot amend it; all we have to do about it is to see that it is republican in form. If it is unconstitutional, it is not in the power of Congress to impart to it the least vitality, and it will fall by its own weight. But gentlemen argue here, as if we could by our votes give life and power to an instrument in violation of the Constitution of the United States. Sir, this argument is weak and futile.

"But, sir, this provision is no more hostile to the United States Constitution than are the laws of Indiana and Illinois which exclude free negroes from their boundaries."

Then, after detailing the reasons which inclined the people of Oregon to exclude negroes, he said:

"It is proved, by the official record, that the republican party in Oregon combined with the free-state democratic party to sanction and ratify this provision which is here called in question. What republican, or what friend of the free states, is justified, under these circumstances, in voting to exclude the people of Oregon from this confederacy on account of this provision, which is only an expedient and not a thing for practical use?"

He then justified the clause in relation to alien suffrage in consideration of the high rate of wages for labor in Oregon, and said it was a wise policy to attract emigration. The Kansas argument next claimed his attention.

"There is another argument—that Kansas has been excluded by the democratic party, and that, therefore, republicans ought to exclude Oregon. The argument amounts to this: that we should abuse Oregon because the democratic party have abused Kansas. Now I, for one, am content that the record of the republicans in respect to Oregon should be better than the record of the democrats in respect to Kansas. . . . . ."

He quoted Senator Seward's remarks at the close of his speech in favor of the admission of Oregon, made in the Senate the previous May, as follows:

"It seems to me, therefore, to be trifling with the state of Oregon, trifling

with the people of that community, and to be unnecessary, and calculated to produce an unfavorable impression on the public mind, in regard to the consistency of the policy of admitting states into the Union, to delay or deny this application. For one, sir, I think that the sooner a territory emerges from its provincial condition, the better; the sooner the people are left to manage their own affairs, and admitted to participation in the responsibilities of the Government, the more vigorous the states which these people will form will be. I trust therefore, that the question will be taken, and that the state will be admitted without delay."

In reference to the characterization of the people of Oregon as inferior, by the republicans, Mr. Thayer said:

"They may be inferior to us in education, in refinement, and in etiquette; they may not appear as well in the drawing-room as some of our eastern exquisites; but in the sturdy virtues of honesty, of fidelity, of industry, and of endurance, they are above the average of the people of this Confederacy. They have my sympathy, and never will I oppress them by my vote or my voice.

"You may send them away from the doors of the Capitol, but they will go thinking less of you, and less subject thereafter to your influence. They may come again with a hypocritical constitution, trusting to effect by statute law what you would not allow in organic law. They may not come at all, or they may come with a constitution tolerating slavery. Discouraged and repulsed by northern votes, finding no sympathy where they had most right to expect it, they might not be able longer to resist the slave-state party in the territory, acting under the Dred Scott decision. Is it not right, therefore, for the lovers of freedom to advocate the immediate transition of Oregon from the condition of a territory in which slavery is lawful, to the condition of a state in which it is forbidden? Which do we choose, a *slave territory* or a *free state?*

"By this act which I now advocate, we shall bind firmly to the old states, by indissoluble bonds, the remotest portions of our possessions."

He closed with a strong protest against non-resident control; and he emphasized the value, importance and permanency of the Union, declaring that it *was* and *would be.*

A writer of that period says:

"With the promulgation of this liberal and statesmanlike speech, which was characterized by all its author's usual energy, clearness, and practical force, was opened upon him an opposition by a portion of the press of his own party, that has not ceased till the present time, (1860.) It is against these very assaults that he is defending himself today. Oregon was admitted by the votes of fifteen republicans in the House of Representatives, Eli Thayer leading the column."

Mr. Greeley, who had set his heart on the defeat of the Oregon bill, was incensed at the result, and under the irritation induced by it, expressed himself in the *Tribune* of February 14th as follows:

"We hold that the great body of republicans voted just right on this question, and of course that the fifteen who seperated from, opposed and defeated them, did a grievous wrong. . . If Oregon in 1860, unbalanced by Kansas, shall elect a pro-slavery president, then woe to those republicans whose votes shall have enabled her to do so. It is said that Oregon is a free state, but it would vote for pro-slavery interests. By the express terms of the constitution (of Oregon), any of Mr. Eli Thayer's constituents and supporters guilty of having African blood in his veins who should visit Oregon with intent to settle therein, is guilty of a grave offence against the majesty of that state, and will be treated like an outlaw and a felon.. . . .That border ruffian democrats should sanction and give effect to such cruel injustice is but natural; that a few republicans should be induced, no matter on what specious grounds, to aid them, is deplorable."

This was wrong-headed; the sting of disappointment was too plain and the personal bias too clear in these resentful strictures to secure the support of the other prominent republican journals, although less influential ones, including

those in the Worcester district, under the mistaken assumption that it was safe to follow the lead of the *Tribune,* kept up the attack for a few days, when, discovering their error, they became silent. Mr. Greeley, whose nature, in spite of his foibles and occasional eccentricities, was a noble and magnanimous one, and whose mental grasp in public matters was generally comprehensive, soon recovered his better sense, and saw if he did not acknowledge his mistake. As a sequel we find him a few months later a fellow delegate with Mr. Thayer to represent Oregon in the National Republican Convention of 1860, where they both worked in harmony to secure the nomination of Abraham Lincoln.

The *Tribune* editorial drew from Dr. Bailey the sharp reproof in the *National Era* of February 27th:

"Why was the *Tribune* silent when the Senate passed the bill? Why did it not arraign the Eleven republican Senators and admonish representatives not to follow their example? Waiting until Oregon is admitted, it passes in silence over the first offenders in the Senate and blazes away at the fifteen republicans who only followed a high example. Such intolerance is not to be tolerated. . . . We rejoice that Oregon is in the Union, and that it stands there by the aid of eleven republican senators and fifteen republican representatives"

Dr. Bailey further declared that while he considered the negro exclusion clause in the constitution of Oregon detestable, the question should be dealt with practically, and Oregon would send true representatives to Washington after a little time. This proved sound prophecy.

In the *New York Evening Post* of February 14th, William Cullen Bryant expressed his view of the matter as follows:

" That different members of the republican party should have entertained different opinions as to their duty in this matter does not surprise us, but it seems to us that those who voted to admit Oregon, took a larger and more statesmanlike view than those who voted to exclude her. . . . .We are glad for our part that Oregon is a state. That question is now taken out of the sphere of controversy, and the way is all the clearer for the admission of Kansas on the same terms."

Henry J. Raymond, in the *New York Times* of the same date:

"Oregon's population is, probably, not half enough to entitle her to admission into the Union under the principle incorporated into the Kansas bill last winter. But the democrats, the very men who voted *then* that no state should thereafter come into the Union without population enough to entitle her to a representative, voted *now* to admit Oregon; and the republicans who voted *then* against any such requisition and declared their purpose to pay no attention to it, voted *against* the admission of Oregon *now*. Mr. Eli Thayer and several other republicans had the courage and independence to disregard the decree of the caucus, and voted for the bill."

The *Springfield Republican* in the issue of February 16th, printed the speeches of Dawes and Thayer, against and for the Oregon bill, and in later issues, probably greatly to Mr. Dawes's surprise, the following appeared:

"Some republican papers incline to be miserable over the admission of Oregon, and to deal savagely with the republican members of Congress who voted for it. But we cannot sympathize with any such feeling. . . .The exclusion of Oregon, if it could have been accomplished, would have been a great mistake, on any other grounds than the application to her of the same rule which was applied to Kansas at the last session.

"The anti-negro articles in the Oregon constitution do not differ substantially from the provisions in several of the Western states' constitutions. (There was a negro exclusion clause in the Topeka Kansas constitution for which the republicans in the House voted the previous session.)

"Those who voted for the admission simply declared the constitution republican in form, and containing no provision violative of the Federal Constitution. We do not hesitate to say that this is as far as Congress has a right to go in the matter.

"Some of our republican friends object to this broad doctrine of state sovereignty, that it limits their field of op-

erations against the institution of slavery. If the limitations are just and inevitable they must be submitted to. There can be nothing gained by raising issues that cannot be logically maintained, and upon which we are sure to be beaten. We not only fritter away our strength by such controversies, but we destroy public confidence in the discretion of the party and the nationality of our principles. What we can do under the Constitution is to put the general government into the hands of the supporters of freedom and free labor.... Freedom is making distinguished triumphs in the territories, with the most determined and inveterate efforts of the general government against it. . . Let us have practical questions to contend for, and not mere abstractions and impossibilities.''

The *Boston Journal* had the following:

''We should have preferred to see Oregon and Kansas placed in the same position, before the former was admitted to the Union. But as that was not done, we do not see but that a precedent has now been established which will inure decidedly to the advantage of Kansas, whenever she shall legitimately apply for admission. As to Oregon herself, we welcome her into the Union. She is one more in the phalanx of free states, Hitherto she has been rather freely colonized and ruled by democratic office-holders and office-seekers; but that day will soon pass over. By virtue of her position, her interests, and the principles of her thronging emigrants, she will ultimately become the New England of the Pacific.''

These opinions from the republican press show that there was a large preponderance of sentiment in favor of Mr. Thayer's course, though in Massachusetts, and especially in his own district, there was less agreement with him than elsewhere.

The admission of Oregon was celebrated on the evening of the day of the passage of the bill by a large concourse of citizens of Washington, with the Marine Band to serenade the distinguished friends of the measure, including Mr. Thayer. President Buchanan appeared at a window of the White House, and said that expansion was in future the policy of our country, and cowards alone feared and opposed it. He then called for the playing of Yankee Doodle by the band. It was the irony of fate that he was compelled to affix his signature a few months later to the bill which admitted Kansas into the Union as another free State.

Mr. Thayer was visited by the procession next after the President, at his rooms at the west end of Pennsylvania Avenue. After the salutatory, music and vociferous calls, he made his appearance at a window. When the cheering had subsided, he said:

''Friends and Fellow Citizens: I know not with what words to express to you my gratitude for the honor of this call, for you have taken me wholly by surprise. I am told that this is a demonstration in honor of the grand event of the day—the birth of a new and sovereign state. The humble vote which I have had the pleasure to give, contributing to the result, has been given in accordance with my convictions of duty, without hope of approbation, without fear of condemnation. I have merely followed the lead of my principles, and adhering to them, as I have done, and as I intend to do. I stand ready to take their legitimate consequences as they come—whether they be tokens of favor or of disfavor (cheers). With you I rejoice to welcome to this Confederacy the heroic men who, more than twenty years ago, in the dim and distant solitudes away beyond the Rocky Mountains,

'Where rolled the Oregon, and heard no sound
Save its own dashings,'

founded our own institutions, and established the arts and occupations of peace. With my whole heart do I welcome to our embrace these pioneers of our own material progress, not as aliens or strangers, but as friends and brothers, bone of our bone, and flesh of our flesh.' (Cheers.) Another pledge have we now of the permanency of this Union, for having firmly bound to the republic our remotest possessions, we have hemmed in and firmly secured all intermediate parts of our national domain.

But, gentlemen, I have no respect for assurances of the permanency of this Union. The Union *is* and *will be!* (Prolonged cheers.) It is not a thing to be advocated and argued for; it is a thing fixed, settled and determined. Far transcending in importance the temporary convenience of one state or of all the states, it is a trust which we hold, not for our posterity only, but for the world! That trust we are bound to deliver unimpaired to succeeding generations, and we will so deliver it. (Cheers.) Again thanking you for this honor, with the best wishes for yourselves, for Oregon and the republic, I bid you good-night."

In commenting on this speech in the *Liberator*, Mr. Garrison significantly remarked: "The people of Massachusetts will settle scores with Mr. Thayer hereafter." But it will be difficult to indicate in this patriotic and union-loving speech what there is that any citizen of Massachusetts should not thoroughly commend and be proud of.

It was not, however, so much the people of Massachusetts as the politicians and party managers with whom Mr. Thayer came in conflict by his course in Congress, which was entirely consistent with his announced principles at the time he entered into the Kansas Crusade in March, 1854. He then declared his belief in the practical application of popular sovereignty in saving the territories to freedom and preventing the spread of slavery, and he proceeded with this method in filling Kansas with free-state emigrants, and gaining so large a majority there that the efforts of the slave power were unable to overcome it. Mr. Thayer advocated this method to popular audiences throughout the free North, from the beginning to the time of his election to Congress in 1856, at which time he was particularly outspoken, yet he was elected by a great majority. Popular sovereignty opposed to the Wilmot Proviso doctrine, or non-intervention against Congressional control were as much the issues in 1856 as in 1860, when Mr. Thayer was defeated, and it was about these measures that the great clamor was made by the politicians, from whom the strength of opposition to him came. With the people directly Mr. Thayer would have had no difficulty.

From 1856 to 1860 the Republican party was rapidly rising to power, and in the 36th Congress it gained control of the House. In their elation its representatives were disposed to be high-handed, and to demand strict party allegiance in whatever measures, sound or unsound, its managers or its majority dictated. To this Mr. Thayer would not submit. On more than one occasion the Republican organization was led into injudicious action which party zeal at the time justified, but which mature judgment has condemned. Such was the attempt to prevent the admission of Oregon, while another instance was the intention to form new territorial governments by the 36th Congress, thus giving their control to the Democratic appointees of President Buchanan. Eli Thayer prevented both mistakes, and in this grim, earnest and determined man of power was discovered a force against which numbers could not prevail, for he was successful in thwarting schemes which he did not approve after his party had the majority in the House. His presence was subversive of all the canons of party management.

The politicians' creed—my party, right or wrong —was well expressed by a Massachusetts editor at the time, writing with reference to Mr. Thayer's independent course:

"Discipline, order, regularity, are as necessary for a political party as for an army. Subordinates must receive and obey the orders of the commander-in-chief. . . .

"If a case like this should present itself in the army, where one of the number was found acting with the enemy, openly and without concealment, and refusing all obedience to the organization, the order would be properly given, 'Shoot the traitor!' He would certainly, as the least that could be expected, be drummed out of camp to the tune of the Rogue's March."

Later, when Mr. Thayer, in a public

meeting in Worcester, referring to the statement of Mr. Dawes, that he would expect to be burned in effigy in his District if he voted for the admission of Oregon, said that when a matter of such grave interest was at stake, he would have voted for it if he had known that his constituents would have burned him in person, the same editor characterized his position as "cheap effrontery which passes with many for high moral courage." This shows how a man's judgment may be affected by political feeling.

FRANKLIN P. RICE.

We all take a just and pardonable pride in this nation's growth and greatness; in the fact that we live in this age of such marvelous expansion and are moving forward at such a mighty pace; that the wheels of industry are moving, every spindle spinning, the anvils ringing, the forges blazing in such large numbers, and that every energy is employed all over this land; and that progress and prosperity are in evidence everywhere. Every man's duty, no matter what his political affiliation, his creed, or occupation, or whatever his prejudices may be, is to strive to benefit this country, protect the weak, relieve the distressed, uplift humanity, advance civilization, progress and happiness; to promote and perpetuate true greatness. Let us all give thoughtful and careful consideration to secure the full benefit for our natural resources, our developed mechanical appliances, the skill and genius of our wageworkers; let us see to it that the American farmer, the shipper, the jobber, the merchant, the manufacturer and his workmen are not discriminated against and imposed upon.—Hon. Gilbert N. Haugen, in House of Representatives.

BANNERS OF THE WORLD—OUR FLAG.

The observance of the birthdays of Lincoln and Washington calls up a discourse given before the members of George H. Ward Post, G. A. R., in this city last summer by Rev. J. M. Van Horn, former pastor of Church of Christ, on "Our Flag." As a patriotic discourse it was one of the strongest that has been given in the city and it is here reproduced.

PEOPLE in the aggregate demand something beside abstract ideas and principles. Hence, the desire for symbols; something visible to the eye and that appeals to the mind and heart. God recognized this principle in human nature, and encouraged it. David said: "Thou hast given a banner to them that fear thee, that it may be displayed because of truth" (Ps. lx:4). The Lord's chosen people had their banners and heroic bearers. The banner of Ephraim was a steer; that of Benjamin a wolf; that of Judah a lion, and now the banner of his people is a cross.

Among the ancient Greeks the Athenians had an owl, the Thebans a sphinx. The first standard of the Romans was a bundle of hay tied on a pole, afterwards a human hand, and finally an eagle; under Cæsar the golden eagle. The Germans formerly fastened a streamer to a lance, which the duke carried in front of the army. The ancient national flag of England was the banner of St. George, a white field with a red cross. It was the first flag used in the American colonies, but when the colonies separated from the mother country, it was necessary to have a flag of their own, and the Continental Congress appointed Dr. Franklin and Messrs. Lynch and Harrison a committee to design an appropriate standard. This committee met with Washington at Cambridge, where 9000 soldiers were quartered, and adopted a flag of seven red and seven white stripes, with its red and white crosses of St. George and St. Andrew conjoined in a blue field in the corner, and named it "The Great Union Flag." The crosses of St. George and St. Andrew meant the willingness of the people to return to their allegiance if their rights were secure; otherwise, freedom and independence. This flag was flung to the breezes at Cambridge, with appropriate ceremonies, Jan. 12, 1776, and, would you believe it, the British officers, watching the proceedings from Charlestown Heights, discerning through their field glasses the familiar crosses, concluded that Washington thus announced his surrender, and cheered with enthusiasm, firing a salute of thirteen guns; so that the first official recognition of the first Union flag was by its enemies, and may now be looked back upon as a prophecy of the result of the great struggle that followed.

The Declaration of Independence, signed July 4, 1776, changed the British colonies into independent states, forming a new nation. A committee was soon appointed by Congress to confer with General Washington, instructed to design a national standard, which committee reported in favor of a flag of thirteen stripes, alternately white and red, with a blue field and thirteen white stars, which was adopted June 14, 1776. The design was carried to the upholstering shop of a Mrs. Ross, 239 Arch Street, Philadelphia, where the first national flag was made.

The first United States flag was hoisted by John Paul Jones in Portsmouth Harbor the same day it was adopted by Congress, and that very same flag at the National Encampment of the G. A. R. in Boston in 1890 was in the parade worn around the shoulders of Robert B. Lincoln, as it was not in condition to be borne aloft.

For eighty-four years the stars and stripes held undisputed sway in all territory belonging to the United States. On Jan. 10, 1861, borne at the masthead of the steamer "Star of the West," it was fired upon by South Carolina troops as she was entering Charleston Harbor carrying supplies to the garrison at Fort Sumter. This was followed by a regular attack on Fort Sumter April 12, 1861.

After two days of valiant resistance by Major Anderson, he was compelled to surrender, but on terms permitting him to lower the flag himself and bear it away, which he did, carrying it to Washington, where it was carefully preserved until the end of the war, when in a new mail-pouch it was sent back to Sumter, and Anderson, who had risen from the rank of major to that of major-general, was delegated to plant the old smoke-stained, weather-beaten flag upon the partially demolished ramparts of the old fort, and, without one star effaced from its tarnished but glorious field of blue, it was unfurled in triumph to remain to the end of the ages. It has been said General Anderson was so overcome by his emotions that he had to be assisted by members of his command.

One wonders if there is a parallel case in the history of nations where the terms of surrender allowed the flag to be borne away by its defenders, and afterwards, the fortunes of war turning, the same flag raised by the same man over the same fort to remain forever triumphant; no wonder the heroic commander was overcome.

How are we to explain such strong attachment to a symbol, to a national flag? How is it that all the stars gleam like gems of beauty, and all the stripes beam like beams of promise so that to us it is a thing of glory and a joy forever? Behold the Massachusetts soldier boy dying in the gory streets of Baltimore, lifting up his glazing eyes to the flag and shouting, "All hail to the stars and stripes!" Hear Captain Perry, mortally wounded in the battle of Fredricksburg, saying, "Boys, I am shot, don't wait for me; just open the folds of the old flag and let me see it once more," and while the film of death was on his eyes, he caught it and kissed it, and under the fire of musketry and the booming of cannon, his brave spirit sought a fairer and purer sky.

But why such devotion to a symbol—a flag? Because embodiment is the law of life. No man ever had an idea worth preserving who did not seek to give it form and fashion to embody it.

The architect must put his idea into a house; the artist his on canvas; the sculptor his in marble; the musician his in an anthem; the Christian his in a life,—so as the citizen looks upon a flag, that he may remember the nation and her heroes, and be a real patriot; the Christian looks upon the banner of the cross, that he may think of Christ and transcribe his life in his own.

Now our flag is the representation of ideas and principles.

When the thoughtful mind sees a nation's flag, it sees not the flag only, but the nation, and is reminded of principles, truths and events that belong to that nation. When the French tricolor rolls out to the breeze an en France; when the three-colored Hungarian flag is lifted, we see the long buried but never dead principles of Hungarian liberty,—so our nation has a banner. No other banner ever meant so much to the captive or the oppressed, and wherever it floats and men behold it they see in its sacred emblazonry no ramping lion, no fierce eagle, no carnivorous beast, no embattled castles, or insignia of imperial authority. They see in the stars the symbol of light; it is the banner of the dawn that brings in the day of liberty.

Liberty has been the dream of humanity through all the ages, and the Declaration written by Thomas Jefferson, signed by John Hancock and supported by the matchless oratory of John Adams, was the declaration of emancipation. It went forth under the flag as the creed of the oppressed, the gospel of freedom.

The first great struggle of our country was a struggle for political freedom; to free a nation, and the Declaration of its Independence will be celebrated with appropriate ceremonies every year wherever the flag floats.

The second great conflict was for personal liberty. While we read in our Declaration that "all men were created free and equal, and were endowed with certain inalienable rights among which are life and liberty and the pursuit of happiness," we saw the black man in chains, and read in the strange providence of the passing years the mystery of God's will, and the meaning of His

redeeming grace, and we said the black man must be free. What a mighty army of patriots was that which assembled between 1861-1865.

The unparalleled heroism of our soldiers may be seen in the fearful losses in battle; whole regiments were sometimes almost annihilated.

Our State of Massachusetts bears distinguished honors for the part her heroes took in that awful struggle. Gov. Curtis M. Guild has this to say about it:

"It is impossible even to summarize the service of the Bay State in the army. Some notion of it may be gained from the fact that this single State gave the country during the Civil War 200 general officers. For every 700 men who went into the army from Massachusetts, one at least won a general's stars.

"There was scarcely a department where the rank and file did not lay down their lives. They shared the first invasion of Virginia at Big Bethel. They planted the flag of the 22d on the works at Yorktown. They fought in North Carolina under Burnside and Foster. The only guns of the army that aided the navy at the passage of Vicksburg were those of Massachusetts batteries. They were Massachusetts men who led the march to death with a smile at Port Hudson.

"They suffered for the folly that planned the Florida campaign. They died under the guns of Sumter and Wagner. They fell in every campaign in the army of the Potomac, and cheered for Fighting Joe of Massachusetts, whether they followed him in defeat in the army of the Potomac at Chancellorsville, or whether they climbed with him to the stars to win a victory above the clouds at Lookout Mountain. They followed Sherman into Georgia, and helped drive Longstreet from Tennessee. They rode with Lowell and Sheridan through the Shenandoah and struggled with Grant out of the Wilderness into the light at Appomattox.

"Such was the service of Massachusetts. Such it had to be. The roll of the Knights of the Golden Circle shows no copperhead lodge in Massachusetts."

The heroism of the men was no greater than that of the noble women of the land. The women knew that war meant widowhood to many wives, orphanage for many children. It took from many a mother her sole support and the love of a son, on whose strong arm she hoped to lean in her declining years.

Our next war was the Spanish-American war—a war for human liberty; to free men from the tyranny of a foreign power. Our countrymen in the full enjoyment of their glorious liberties, could not stand by and see so many thousands of poor Cubans crushed under the iron heel of Spain, and they were ready to die, that strangers and foreigners might enjoy the liberty they so highly prized, all honor, therefore, to the brave men who engaged in that struggle.

The highest powers of men intellectually and spiritually can only flourish in the soil of political and personal liberty. If men are to develop their highest capabilities they must be free. Jesus said, "Ye shall know the truth and the truth shall make you free and if the truth shall make you free, then are you free indeed." We rejoice that our flag has ever led men in the cause of liberty; that men may be free to learn and proclaim the truth along all lines of life.

Rev. J. M. Van Horn.

THE WORCESTER MAGAZINE

Vol. IX. APRIL--1906 No. 4.

Magazine and Municipal Comment.
Light on City Finances.
How to Get Foreign Trade.
Senator Lodge on New England.
Public Schools and Women Workers.
Board of Trade Notes.

DEVOTED TO

Good Citizenship and Municipal Development

PUBLISHED MONTHLY BY THE BOARD OF TRADE
WORCESTER, MASSACHUSETTS,
U. S. A.

$1.00 A YEAR. 10 CENTS A COPY

CENTRAL SUPPLY CO.

Steam and Gas Supplies

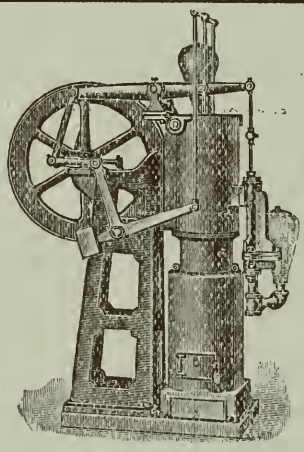
Wholesale and Retail

Wrought Steel
Cast Iron
and Brass

PIPE

All Weights
and Sizes
1-8 to 24 in.

Automatic Sprinklers
Brass *and* Iron Fittings
Tanks
Inspirators
Injectors
Traps
Hand *and* Power Pumps



Ericsson Hot Air Engines

Oil Filters
Wind Engines
Brass *and* Iron Valves
Towers
Pipe Tools
Railing Fittings
Pipe Covering
Hose, Etc.

The Leading Makes of

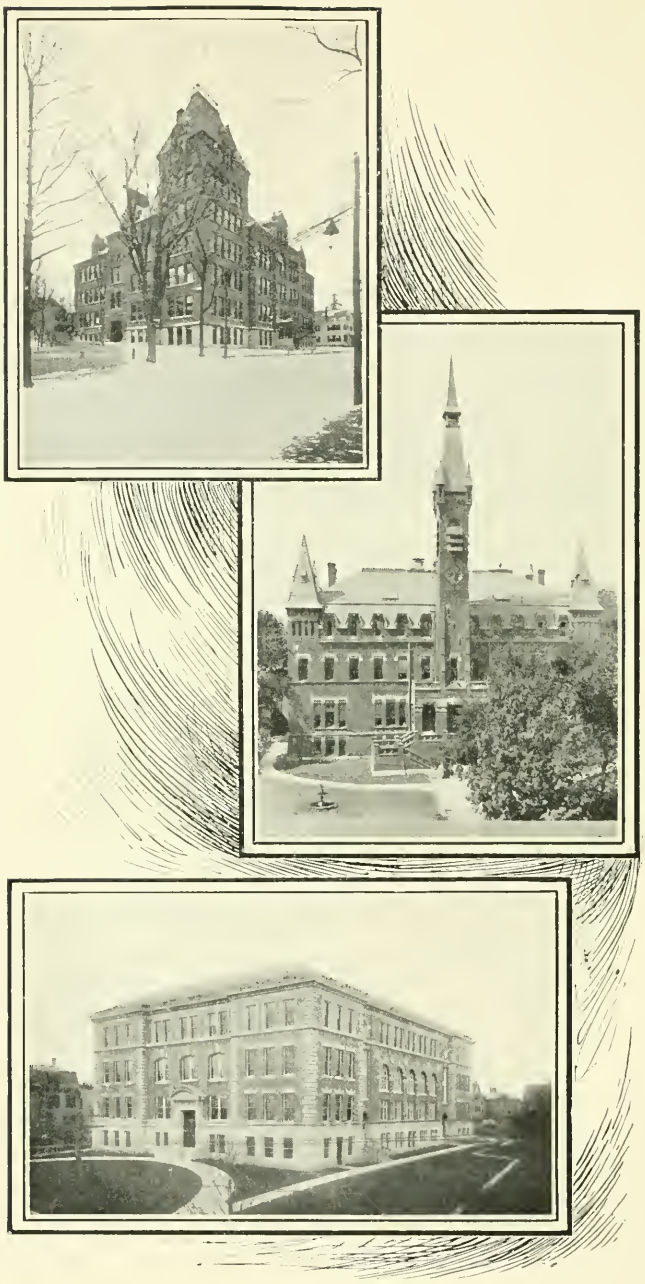
Steam and Hot Water Heaters

Radiators of all kinds and sizes

Send us your address and receive estimate (free) from responsible fitter for heating your home, store or factory.

Pipe cut to sketch. Complete Steam, Automatic Sprinkler and Heating Outfits. Pumps and Pumping Appliances of every description.

35 and 37 Waldo Street
WORCESTER, MASSACHUSETTS



WORCESTER HIGH SCHOOLS.

The Worcester Magazine.

VOL. IX. APRIL, 1906. NO. 4.

This magazine is published by the Worcester Board of Trade. Its reading pages are devoted solely to municipal development, good citizenship and the business welfare of Worcester. Space in these pages is not for sale.

MAGAZINE AND MUNICIPAL COMMENT.

Will Not Destroy Architecture

When Mr. J. Randolph Coolidge, the widely known Boston architect, gave a smoke talk before the members of Worcester Board of Trade last year, he had considerable to say about the Classical high school as style of architecture that should always be allowed to remain in its present form. At that time there was considerable discussion in the School Committee and City Council relative to building an addition to this building. One plan was to make the addition on the front, which would entirely destroy the architectural beauty of the structure, and another plan was to purchase land and make an addition to the south of the building. This would allow the front and tower to remain intact, but would make an unsymmetrical building, and, in fact, would destroy its beauty from an architectural standpoint. Mr. Coolidge brought out these points in a striking way, and argued that as the Classical school was the only building in Worcester designed by the famous Richardson of Trinity Church fame, it would almost be a crime to destroy it. Richardson is regarded the head and shoulders above all other architects in America from Mr. Coolidge's reasoning, and no one would think of burning a picture of Stuart or Whistler, and for similar reasons no one should think of destroying a building designed by Richardson.

It is unfortunate that this building was erected on its present site because of the growth of business property around it. The State Mutual block shuts off much of the view that was formerly had of it, and plans of this company contemplate future development of the property owned on Maple Street and Maple Place. The addition desired by the School Committee would cost between $150,000 and $200,000, and this is considered too much to put into an addition or in that section. Mayor J. T. Duggan is opposed to an addition to the Classical high school building, but favors another high school building in a section of the city near the business centre, presumably in the locality of Portland or Salem Streets. This done, the Classical high school building could be used as a manual training building, which has been also considered by the School Committee.

The frontispiece, prepared for the Board of Trade booklet to show the high schools grouped, gives a splendid idea of the architecture of the three high school buildings. It is clearly apparent to the majority of citizens that the architecture of the Classical school building is decidedly more attractive, and there should be but one mind in the matter—that nothing should be done to destroy so artistic a front as this school building presents.

"A Molecule of Light on City Finances" is the title of an article prepared for the Magazine by Former City Auditor John B. Bowker. Since Mr. Bowker told of city finances to the members of the Twentieth Century Club a few weeks ago, there has been much interest manifested, and Mr. Bowker consented to write an article along these lines for the Magazine. In the beginning he says that the necessary funds to carry on city business are secured "first by taxation, second by taxation, and third by taxation," and so on, and adds in this connection that "taxation and municipal ownership differ in that taxation takes an individual's property from him by degrees, while municipal ownership takes it all at once." It is a "case of the individual supporting the government in either case."

Light on Worcester's Finances

The troubles of a mayor are gone into to some extent; the first proposition of any magnitude a mayor has to consider each year is the question of finance. Mr. Bowker tells why $12 per $1000 is the limit of the sum that can be raised by taxation for municipal expenses, saying it is the safeguard for owners of property. Concerning the liquor license proposition, Mr. Bowker says an alternating system will necessarily prove detrimental, but thinks a five years' term of license, and then a similar term of no license, would have great effect in fixing valuations.

Mr. Bowker is a strong believer in renting the use of streets to corporations rather than granting franchises. He believes in an annual rental for use of sewers rather than an assessment to abutters. This rental should be enough to pay the contributions to the sinking funds. The city should charge annual rentals for the use of streets by street railways, gas and electric light companies, sewers and telegraph and telephone companies. The city should make all the improvements and charge rent.

Referring to the borrowing capacity of the city Mr. Bowker says it excites the envy of every other city in the Commonwealth.

Mayor Duggan has consented to a representative of the Fire Department going to New York to study fire drill, and Deputy Engineer W. N. Avery is selected to take the trip. This is a wise move, for there cannot be too much knowledge about fighting fires. As was stated in the Magazine last month, Worcester need not be afraid of severe criticism of its Fire Department. Its record is good and will stand close examination under the limelight. In number of alarms to which responses have been made, and the amount of fire loss, few cities can show a cleaner record. The department is absolutely and thoroughly competent. There is no question, however, that knowledge of a fire drill, as taught in the New York department, will be of decided benefit to the Worcester department. Perhaps the local department is not sufficiently expert in ladder work, and this drill will greatly improve this feature of fire fighting. It is short-sighted policy to discourage any method which will promote the efficiency of a fire department, and it is wise in Mayor Duggan to urge that a representative of the Worcester department be sent to New York to study and become familiar with the work of that organization in ladder drill and work. Much that is valuable can be communicated to the Worcester firemen, particularly the ladder branch of the service.

Engineer Will Study Ladder Drills

There is a bill before the Massachusetts Legislature known as Senate bill No. 154, which is an act to regulate the taking of security in certain cases In other words, it is a piece of legislation which limits the time for which a man may make an assignment of wages to two years instead of indefinitely, as is now the case. It is a good piece of legislation, and the Committee on Judiciary, to whom the bill was referred, has heard much evidence for and against it. The Worcester Merchants'

Limiting Assignments of Wages

Association and the Worcester Board of Trade have gone on record in its favor, and the manufacturers and business men throughout the State are generally in favor of the passage of the bill. The assignment of wages practice has been taken advantage of by a certain class of merchants, and it has worked detriment to the person giving the assignment. Manufacturers and business men do not particularly enjoy having the wages of their employees assigned, and in many instances it results in the discharge of the employee. So long as business is done and men are employed, so long will assignments of wages be made, and the present bit of legislation asked for is to limit the time for which they can be made.

Mr. Marble on Railroad Rates

Mr. J. Russel Marble, who represents one of the most important wholesale houses in the city, has pronounced ideas about the regulation of railroad rates, and has frequently declared them. As a director of Worcester Board of Trade he has expressed his sentiments regarding these rates, and a short time ago, at a meeting of the Boston Associated Board of Trade, took a strong stand with reference to the regulation of railroad rates. The action of the meeting was decidedly against the New York, New Haven & Hartford Railroad because of its alleged discrimination in favor of Standard Oil. One of the principal speakers was Mr. Marble, who referred particularly to the refusal of the New Haven road to fix rates from Cleveland and other points, which, he said, led to unjust and unreasonable charges. The following extract from his remarks are particularly interesting just at this time:

"That is the proper spirit. Let Congress know that the citizens of Massachusetts still have a little of the old fire of '76 in them and that they do not propose to submit to unjust taxation by the railroads any more than by a foreign monarch. The railroads care nothing for the sentiment of a community. They are looking for a chance to make money. Competition has passed out of the game, except as appearances have to be kept up. The only competition now existing is between the people and the railroads, to see which shall rule. Thus far, the railroads have had things all their own way.

"Will it always be so, just because it has always been so since the railroad power began?"

Professor Parsons' Fifteen Reasons

Worcester has had its discussion on the municipal ownership proposition by no less personages than Prof. Frank Parsons of the Boston University Law School faculty, and Hon. E. W. Burdett of the law firm of Moody, Burdett, Wardwell & Snow, also of Boston. Professor Parsons is president of the national society favoring municipal ownership, and is widely known as an authority on social economic questions. Whatever one's ideas may be regarding this much-discussed question, there was considerable food for reflection in the argument which took place before the Worcester Economic Club at its banquet on the night of March 15.

Professor Parsons has recently formulated fifteen reasons why public utilities should be owned and operated by the people, laying particular stress upon the gain in economy of production which he believes to be inherent to public ownership. The question of municipal ownership of public utilities is being freely discussed and agitated in hundreds of cities throughout this country and Europe. In this country the proposition is practically only in its experimental stage. Professor Parsons' reasons are:

1. A public plant does not have to pay dividends on watered stock.

2. It does not have to pay dividends even on the actual investment.

3. It does not have to retain lobbyists, or provide for the entertainment of councilmen or legislators, or subscribe to campaign funds, or bear the expenses of pushing the nomination and election of men to protect its interests or give it new privileges, or pay blackmail to ward off the raids of cunning legislators and officials and others.

4. It does not have to advertise or solicit business.

5. It is able to save a great deal by combination with other departments of public service. Speaking of the low cost of electric light in Dunkirk, the Mayor of the city says: "Our city owns its water plant, and the great saving comes from the city's owning and operating both plants together."

6. Full public ownership (that is, public ownership free of debt) has no interest to pay.

7. Even where public ownership is incomplete, the people not owning the plant free of debt, they still have an advantage in respect to interest, because they can borrow at lower rates than the private companies have to pay.

8. As cities usually act as their own insurers, public ownership is free of tribute to the profits and agency commissions of private insurance companies.

9. There is often a large saving in salaries. A public plant pays its chief well, but does not pay the extravagant salaries awarded by millionaire monopolists to themselves or their substitutes in office.

10. Public plants frequently gain through the higher efficiency of better treated or more contented labor.

11. The losses occasioned by costly strikes and lockouts do not burden the ledgers of public works.

12. Damages and costs of litigation are likely to be less with public than with private works. Accidents are fewer in a system that aims at good service and safety, and treats its employees well.

13. The civic interest of the people leads to other economies through the increase of patronage and the lessening of waste. The larger the output, the lower the cost of production per unit of service, other things being equal, and the tendency to waste electricity, water, etc., is much less when the people know the service is a public one, the profits of which belong to them, than when they know the service is rendered by a private corporation charging monopoly rates, and making big profits for a few stockholders. These economies are intensified as education and experience with public ownership develop the understanding and the civic patriotism of the people.

14. The cost of numerous regulative commissions and interminable legislative investigations into the secrets of private monopolies would be saved by the extension of public ownership.

15. Legislation would cost us less were it not for the private monopolies, for a large part of the time of our Legislature is given to them.

Boston Against Sky-line Advertising

Boston is at last up in arms over billboard advertising. Two hideous billboards, which detract from the beauty of the view of the Common, have given the people of that city an object lesson in sky-line advertising that is decidedly objectionable. A Citizens' Committee is working up an agitation against such class of advertising, and has interested several thousand residents in a protest. A flour merchant who had arranged to have his sign painted on one of the boards, has been won over by the objectors, and many of the prominent merchants of Boston are on record against this extreme method of advertising. A representative of Macullar-Parker Co., in writing his protest to the Citizens' Committee, says he considers the placing of the sign in the position designed an indignity offered to the public which calls for the strongest public protest. He favors laws being made that will prevent such extreme measures to be taken to advertise certain lines of goods to the detriment of everything else.

Vice-Consulate for Worcester

The Swedish-speaking settlement in Worcester has assumed such important proportions that the Swedish government deems it advisable that there be a vice-consulate here. This again brings Worcester before the country as a city of particular importance. It is estimated that the Swedish-speak-

ing population numbers 20,000, which is about 17 per cent. of the total population, and the city is the recognized centre of the Swedish people in the East. These facts have led to the request for a vice-consulate. The name that is suggested is that of Mr. Sven E. Hanson, who has been a resident of this city for more than a quarter of a century, and is a brother of Mr. C. F. Hanson, who is one of the first Swedish-speaking residents of the city. Mr. Hanson unquestionably will be the choice of his countrymen for the appointment, for he has for many years been a recognized leader in the various interests of the Swedish people of Worcester. He also commands the respect of Worcester people irrespective of nationality. If the vice-consulate goes to Mr. Hanson, the choice will be wisely made.

Boston Finds it Expensive

The way they do things in Boston as compared with Worcester is illustrated in the talk now being made relative to a sewer "surface drainage system." Boston has expended for this supplementary system about $2,000,000, and it is claimed nothing practical has been accomplished. A Worcester paper, commenting on Boston's troubles in this respect, says Worcester knows what it all means, for it has paid millions for the same thing. Worcester has this double sewer system, and it was done here in a business-like manner, and the city can see where the money went to any time it is desired, irrespective of the question of the practicability of the system. The original plan of a double sewer system had its opponents at the time the loans were made and the work done, but it is done, and there are many who believe it is a wise policy and greatly adds to the effectiveness of the Worcester sewer system, which is different from many cities. It is known that Worcester is in a peculiar situation so far as care of its sewage is concerned, having the Supreme Court demand hanging over it all the time.

The Boston Advertiser, in a lengthy editorial, commenting on the Worcester system and the comment of the Worcester editorial writer, says, "What has been done in Worcester is to put in a system of connecting drainage waterways. Worcester has something to show for its money. Boston has worse than nothing. In other words, in Worcester the sewers have actually been built with the money laid out. In Boston it was supposed that the same thing was being done. But nothing that can be fairly called a sewer system had been built." Boston does not like the way things are managed down there.

Ohio Man for Board of Trade Banquet

The Board of Trade Committee on Meetings and Receptions is able at this time to announce that the annual banquet of the organization takes place in Mechanics Hall on the night of Tuesday, April 17, with Gen. Charles Henry Grosvenor of Ohio as the principal guest of honor. General Grosvenor has represented the Eleventh Ohio Congressional District in the National House of Representatives since 1885, and was the spokesman of the McKinley administrations.

General Grosvenor for many years has been one of the most prominent figures of national life, and his career as a Congressman is most interesting. Able as a legislator, he was equally prominent and efficient as a soldier, serving through the Civil War, and comes from a family which was identified with three wars. General Grosvenor was born in Pomfret, Ct., Sept. 20, 1833. His grandfather was Col. Thomas Grosvenor of the 2nd Connecticut Regiment during the Revolutionary War, and his father, Maj. Peter Grosvenor, served in the 10th Connecticut Regiment in the War of 1812. Congressman Grosvenor went into the Civil War as major of the 18th Ohio Volunteers, served five years, and on his discharge was breveted brigadier-general.

Ohio has been the home of General Grosvenor since he was five years old, and his education was obtained in a log schoolhouse in Athens County. He afterward taught school and studied

law, being admitted to the bar in 1856. He was a member of the Ohio State Legislature from 1874 to 1878, and was Speaker of the Ohio House of Representatives two years of that time. He has been to several Republican national conventions as delegate, and has served as presidential elector. He is one of the most widely known men in public affairs in the United States, and this is his first visit to Worcester.

Revival of New England Lyceum

When the New England Education League announced its determination to revive, in the most remote and inaccessible rural communities of this section, the idea of the lyceum such as was in vogue a generation ago, there was much good-natured skepticism at its expense.

Now that the idea is being carried out, doubts have been changed into favorable comment. Even during the present winter season, educational exhibits, some almost as elaborate as those sent to the world's fair at St. Louis, have been shipped to forgotten hamlets in Maine, New Hampshire and Vermont.

Lecturers of a national reputation, men who feel flattered to address a Boston audience, have been willing to appear at their own expense in old New England towns once progressive and alert, but now stagnant, and there they have delivered a new message. More frequently has the league conducted a lecture correspondence with some prominent citizen, like the one merchant or the one clergyman or the one deacon of the pastorless church, who has called the people together and read with his own comment a lecture written by some famous man in the world beyond. No one can tell what good may not yet come out of the backwoods districts. Certainly, as they have contributed mightily in past years to the building of the great cities, the great cities owe them a debt.

Advice from Germany

Some time ago a Boston firm wrote to Germany for information as to the best method of introducing its products into that country, and in reply by Consul Hannah of Magdeburg, there is an enlightening clause which applies not merely to the trade in Germany, but to all foreign trade, and it is worth bearing in mind. Says Consul Hannah:

Another thing necessary to establish permanent footing in Germany is a compliance with the customary conditions of sales, credits, etc. The German likes very much to do business in the manner that he thinks right and proper, and American firms that attempt a reformation in his business habits arouse his antagonism, thereby losing opportunities for the extension of American trade.

The truth and common sense of this bit of advice are so apparent that it would seem hardly necessary to give it, yet that it is necessary is shown, first by the success of the Germans in their trade with all parts of the world, and second, by our failure measurably to compete with them.

The New England port is to be put absolutely at the mercy of this commission, and I want to ask if it is unreasonable that we should want proper safeguards about its appointment. No part of the country is so vulnerable as New England.

Our economic possessions that cannot be taken from us are few. We have no mines, no coal, no iron. We go south for our cotton, west for our hides, and we have to go out after all we use. Every manufacturing industry in New England would go out of existence if rates were fixed on a mileage basis. It would make us a desert. The whole internal system from North Adams to Maine has an equal rate.—Senator Lodge, in discussing port differentials in his speech.

A MOLECULE OF LIGHT ON CITY FINANCES.

THE necessary funds to carry on city business are secured first by taxation, second by taxation, third by taxation, etc. Taxation and municipal ownership differ in that taxation takes an individual's property from him by degrees, while municipal ownership takes all at once. The individual will be required to hustle around at some occupation to support the government in either case. If there is property subject to taxation, the individual has something to assist him, in providing his share of the government expenses. In the case of municipal ownership the individual will be obliged to make bricks without straw.

The mayor of a city finds his advisers as how to spend the public funds are numberless, but he is left alone to provide that or devise means providing that for which he has received advice so freely given as how to expend.

The very first proposition of any magnitude the mayor has to consider each year is the question of finance. He is supposed to look a year into the future, and provide against all contingencies, and at the same time keep down the tax rate. He tells how he will do it before he gets into office, and at the close of his term is busy explaining why he did not do it.

All departments, boards and trustees are required annually to submit to the mayor and auditor, on or before the tenth day of January in each year, an estimate as to the sums required by their respective departments, for the carrying on of the work of those departments for the next financial year, beginning with Dec. 1st. These estimates are tabulated by the auditor and placed before the mayor for his decision as to the amount to be allotted for each department that he will recommend to the City Council for its consideration and adoption.

The amount which a city can legally appropriate for municipal expenses, aside from interest and necessary contributions to the sinking funds, is limited by the Public Statutes to that sum which can be raised by a tax not to exceed $12 for each $1000 of the average valuation of the taxable property of the city for the three preceding years, less any abatements which have been allowed during those same years. Any assessment requiring a sum in excess of this is void, and cannot be collected.

The estimates of the mayor are sent as a communication to the City Council on or before the first day of February, and usually by them referred to the Finance Committee, and after the consideration of this communication from the mayor, by the Finance Committee, it is reported back to the City Council for its adoption. If the City Council agree with the mayor as to the amount to be taken from the tax levy for the carrying on of the work of each of the several departments, it is passed by them and sent to the mayor for his approval, and when approved by him is operative, and the sums appropriated can be expended by the several departments.

No change in the amount recommended by the mayor can be made except by a two-thirds vote of the City Council, and if the mayor is shrewd he will make his estimate to within a very few dollars of the limit, so that, if any portion of the estimate is to be changed, it will require a change in some other portion, which renders any change very difficult to make, as the addition to what was given to one would have to be taken from another department, and the friends of the respective departments in the City Council would rally to their rescue in such numbers as to prevent those in favor of the change getting the necessary two-thirds vote.

The appropriation bill, as it is called, is passed by a majority vote of the Council, with the exception of the appropriation for public parks, which is separated from the main appropriation bill, and passed as a separate item.

The State law requires that appro-

priations for the purchase or care of public parks shall receive a two-thirds vote of each branch of the City Council.

Much has been said as to the wisdom or lack of wisdom on the part of the Legislature in passing the law which prevents the raising of a sum in excess of what can be raised at $12 per $1000 on the average valuation of a city for the three preceding years for ordinary municipal expenses. But there must be some safeguard for the owners of property, and for those in so many cases having mortgages upon this same property as a guaranty of some security for loans and investments, and it would seem that the Legislature would have the same right to fix the maximum that could be required from real estate, as well as the maximum which could be taken from an individual who possessed no property.

It is assumed by many that a person dead is worth $5000. At least, that is what corporations have been called upon to pay in case of accidental death without conscious, painful suffering. It would seem, if that is the value of one who has ceased to be a part of the active life of a community, that the one active in everyday life ought to consider himself of sufficient value to readily and cheerfully contribute his share to the municipal expense to the extent of two dollars, which, at the rate of $16 a thousand, would cause his full and fair cash value to be set at $125.

The number of assessed polls in the city of Worcester for 1905 was	37,260
The number assessed for more than a poll tax,	14,344
The number of poll tax payers assessed for a property tax,	6,363
The number of registered voters,	23,572

That an unbiased and unprejudiced board should decide the proper proportion to be contributed to the public expense by both the owner of property and the one without, is evident.

Aside from the direct tax, another source of revenue is the liquor license fees. One-fourth of the amount received is paid to the State, and three-fourths remain to be expended by the city as the City Council in its judgment may dictate. The amount which the city of Worcester has had in the last few years for its own use has amounted to from $150,000 to $152,000 annually.

The license question is bound for some time to require consideration at each election, and, while opinions as to the moral effect of license or no license may differ, it is evident to those who have given the matter close study that license one year and no license another will not prove other than detrimental. But if five-year terms of license or no license could be given a fair trial, it is an open question as to whether the increase in the value of the property in those sections of the city which would be freed from the traffic would not be more than sufficient to annually bring in, by direct taxation, a larger sum than the city at present receives from the liquor license fees. When this question is finally decided, it will be decided as a business proposition, and not as a matter of sentiment.

Another source of revenue to the city is the premium received on the city bonds. That is the sum which the city receives from the sale of its bonds, over and above the face value of those bonds, and which excess is given for the reason that the bonds are considered better than the average as an investment by large banking institutions and trust estates.

Up to 1898, the amount which the city received as premium on $7,278,400 of city bonds sold was $325,000.

From 1898 to 1901, notwithstanding the fact that during that time the rate of interest which the city paid was reduced from 4 to 3½%, the sum received on $3,134,000 of city bonds sold was $295,000.

From the beginning of 1901 to the close of 1905, the sum received as premium on $2,219,800 city bonds was $67,600.

There can be as much sagacity displayed in the sale of city loans at opportune moments as in the carrying on the work of any department. The care-

ful examination of the sale of loans in the last twenty years will verify this.

Up to 1884 the premium on city bonds was turned over to the sinking funds to assist in the reduction of the funded debt. From 1884 to within two years the premium was used to help out the various departments in their running expenses. This was an injudicious use of this money, inasmuch as it tends to encourage the City Council to fix a higher rate of interest than is necessary the loans should bear in order to sell them, in order that they may earn a larger premium, which the Council can expend in ways which are not always to its credit.

This matter was brought to the attention of the City Council some two years ago, and an ordinance was adopted which requires that all premiums received on city bonds shall be paid over to the Sinking Funds Commissioners, to be contributed to the sinking fund for the redemption of the loan proper at maturity.

Other sources of revenue are the assessments for sidewalks, sewers, and for street watering. The sewer assessment is an extremely variable quantity, and it was an open question at the time the present method was adopted as to whether it was a proper one or not. Various city councils have different ideas on the subject,—so much so that there has been no uniformity as to the proportionate cost of a sewer which should be assessed on the owner of abutting property as his share towards the construction of the sewer. For instance, we find that 51 per cent. of the cost of sewers was assessed upon the abutters one year, another year but 21 per cent. was assessed, and another year but 19 per cent.

The only equitable method as yet devised would be for all those who receive the benefit of the sewers to pay an annual rental for their use, which rental should be sufficient to pay the contribution to the sewer loan sinking funds, the interest on the sewer loans, and for the expense incident to necessary repairs.

There is also the street railway tax and the street railway excise tax, from which the city receives a small revenue. One is levied by the State and paid over to the city, and the other, the street railway excise tax, is levied by the assessors of the city direct. It is not the part of wisdom for any city to give any right in the streets or ways to any private individual, corporation or concern. Streets were constructed for the purpose of facilitating free and unobstructed travel, and that end should be kept primarily in view. In the main, the land for these thoroughfares has been taken from the citizens, and they have been forced to contribute well for the betterments and improvements and care of the same, and the giving of free use of them, or rights in them, to corporations or individuals to use as a source of revenue, is not showing due regard for the eternal fitness of things, or properly caring for the interests of those who made the thoroughfares possible.

In the public streets the city should control and own, build, equip and lay every street railway track, gas main, water main, sewer main, and all telephone, telegraph and electric light wires, whether above ground or in trenches beneath the surface of the street. In this manner, and in this manner alone, can they be so arranged as to not interfere one with the other, and so cared for as not to obstruct to too great a degree public travel.

To do this the city could borrow sufficient money to meet all requirements, and charge as an annual rental sufficient sums to pay the contributions necessary to meet the loans at maturity, and for the interest account, thus freeing the citizens from a large burden which they ought not to bear, and this method would be in the end much cheaper for the franchise holders in our streets than to make payments which some of them have been compelled to do in the past, and would also remove from the City Council one of its greatest temptations to graft.

The ordinary revenue earned by the several departments is credited to their accounts. This is not of any great amount for any individual department, with the exception of the Water De-

partment. There has not been a time in the last twenty years when, with the care and watchfulness which should have been exercised, both by the City Council as well as the department in looking after that which they are charged with doing, the Water Department would not have been self-supporting. There have been great wastes of water, as nobody who has examined into the subject will attempt to deny. In 1902, when the agitation as to the free use of water by manufacturers was brought to the attention of the public, the amount of water drawn from the reservoirs fell off 800,000 gallons for each day of the 365 days in the year, and yet $5000 more was received into the treasury for the use of water in that year than in the previous year. With a largely increased number of users, reports show that more than 600,000 gallons less of water daily for each day of the year left the reservoirs in 1905 than in 1904, and yet the increase in revenue paid into the city treasury is nearly $15,000. Here is food for thought, if not material for investigation.

If the city business could be conducted on the same basis as a private corporation, without outside interference, the city of Worcester could easily have all that it is having at the present time, and at over $100,000 a year less expense.

When there is not sufficient money from all sources of revenue to meet the expenditures which seem necessary for any year, the city contracts loans. These are usually made on ten, twenty and thirty year terms. As a rule, the water loans have been made on thirty year terms, the sewer loans on twenty and thirty year terms, and other loans for ten years.

At present, whenever a loan is authorized by a City Council, a sum is required to be set aside for the first payment to the sinking fund, to be established at the time the loan is negotiated, and at that time is to be paid into the hands of the Sinking Fund Commissioners. This sum is based on the rate of three per cent. for a thirty-year loan, four per cent. for a twenty-year loan, and eight per cent. for a ten-year loan, and annually thereafter the city is required to raise, by taxation, outside and above the rate necessary for ordinary municipal expenses to contribute to the several sinking funds established, a sum which will, with its earnings, amount to the face value of the loan at its maturity.

The city is also required to raise by taxation, outside of the sum which they are allowed to raise for the running expenses of the city, whatever sum is necessary for the interest on their temporary and sinking fund loans. These sums, together with what is required for a state and county tax, accounts for the difference between the rate of $12 per $1000, which can be raised for the city's ordinary expenses, and the rate per $1000 which is actually fixed.

The tax levy is committed to the tax collector by Sept. 1st of each year, and interest on unpaid taxes is charged after Oct. 10th of each year. To pay the necessary expense incurred from Dec. 1st, the beginning of the city's financial year, to the time of the collection of the tax levy, the city is authorized to make loans in anticipation of the collection of the taxes, such loans being known as temporary loans, and are limited by statute to one year terms for each tax levy, from which they must be paid.

The city ordinances require that, so far as is possible, the Sinking Fund Commissioners shall invest the contributions made annually in the funded loans of the city, and to the present time there has been no lack of opportunity for the Sinking Fund Commissioners to do this, and with the exception of a small balance deposited in the banks, the sinking funds of the city of Worcester are invested in the city's own bonds, with the exception of $40,000, which the city acquired years ago of the Fitchburg Railroad stock.

In order that a city might not go beyond its ability to pay its indebtedness, the Legislature passed a law limiting the amount which a city or town might borrow without securing special permission of the Legislature to do so. For cities this debt limit was fixed at two and one-

half per cent. of the average valuation on which taxes could be assessed.

The debt of the city of Worcester exceeds by considerable in gross its debt limit, by reason of the large amounts which the city has received special permission by the Legislature to borrow outside the debt limit for its sources of water supply, and its separating system of sewers and purification works, its City Hall and its parks. But the financial affairs of the city have been so well administered, and the ordinary running expenses of the city have been kept within the amount which was received from the tax levy and from the several sources of revenue, so that the present borrowing capacity of the city, without any appeal to the Legislature, excites the envy of every other city in the Commonwealth, and renders it unnecessary to call upon the Legislature for any further aid or interference in our financial affairs, unless it is necessary to take land and property outside the city limits for the sources of a water supply. If the finances in the future are as carefully looked after as they have been in the past, there can be no further need of an appeal to the Legislature for additional authority to pile up a burden of debt. If a city were to go to its debt limit, and raise all that it could in its tax levy, the amount of tax which it could assess on the property holders would be all that any legitimate business could stand, and pay a tax upon its full and fair valuation, and there is no expenditure justified which will call for a tax upon any property, corporation, or manufacturing establishment, sufficient to deprive it of a living income. While there are many improvements that might be desired, and some things that would make our city appear to better advantage, the fact should never be lost sight of that there is no city in this Commonwealth, or any other, which is so good to live in, or which offers so many advantages for manufacturers, for business men, for a home or for an education, as the city of Worcester, the Heart of the Commonwealth.

JOHN B. BOWKER.

This is a great country of ours. We have gained a material development, in which the railroads have had much to do, beyond any other country on the globe. Here, between the lesser and the greater oceans, there is a continent in which every valley and every hill, every plain, and every mountain, abounds in the wealth of the farm, of the forest, or of the mine. The Macedonian phalanx under Alexander and the Roman legions conquered a portion of the earth which was small in comparison with that far wider area which has yielded to the pacific triumphs of American industry. Our merchants and our manufacturers send argosies carrying their wares to the remotest parts of the globe, and the white sails and the black hulls bring back from Orient and Occident their treasures to lay at our feet. But is this all? Is it not well for us to consider whether a development less rapid, especially a development in which there shall be a greater degree of equality, would not be a better one? Is it not true that the benefits of wealth and increasing prosperity do not bring their best results unless they spread all over the land, bringing blessings to the humblest cottage, bringing plenty to the poor as well as to the rich, and to the millionaire?—Hon. Theodore E. Burton of Ohio in House of Representatives.

HOW TO GET FOREIGN TRADE.

Mr. C. A. Green, who has charge of the foreign department of R. G. Dun & Co.'s Mercantile Agency, prepared the following article for the Worcester Magazine, along lines of a talk he gave before the Board of Trade on the night of Thursday, March 22. He is a recognized authority on foreign trade matters, and whatever he says is worthy of careful reading and consideration.

THERE are some subjects that are so important to the manufacturers and business men of the country that it can never be said that we know all about them, and that there is no further need of investigation or discussion.

One of the most important of these is, how can we develop a larger volume of foreign trade, and secure wider markets for American goods? This subject now engages the attention of some of the most far-seeing men of our day and is of such vital importance that every manufacturer should take an interest in it; the continuance of our present prosperity depends more upon our securing these wider markets for our products than any other one thing.

We are becoming, or have become, a manufacturing people, the enormous sum of $15,000,000,000 being the value of manufactured goods last year; it is hard to take in such figures—we are apt to get lost when we get beyond millions. Think of it, 15 thousand millions. . . . . Consider your own city. I am told on no less authority than your own Board of Trade that Worcester has 1000 industrial plants, several of these being the largest of their kind in the world, and your city is not alone in this growth; go where you will, in any direction, and you will find new manufacturing plants erected, and old ones enlarged. While we all know that our American market is the best in the world, even we have a limit to our ability to consume, and the day is not in the far distant future when we must have far larger sales abroad than anything we have yet attained to. We must trade with the world, and have a permanent foreign outlet for the surplus of our factories, or we must cut down our production, which spells disaster to the many.

It is an unwise position for any manufacturer or business man to take, when he says that we do not need much export trade—that the home market is good enough, for long years to come, and assume that when we do want foreign trade that we only need to announce the fact, and it will come to us. Such is not the case, but a little money well spent in the right direction now (and that right direction is personal effort) will make it much easier and less expensive to get the trade when we realize it is required. One cannot enter foreign markets and capture them immediately; it takes time, and hard work, and if our manufacturers do not awaken to this fact they will find the English and German, especially the latter, so strongly intrenched when they do want a share of the trade, that it will cost much money and time to get it, and it seems to me that one of the most important things for the manufacturers, particularly of our Eastern states, to consider, is the introduction of their products into the world's markets in a systematic way. The day has gone by when they can be used as a dump for undesirable stock.

In the last market I had an opportunity of investigating personally South Africa in 1904; I found the demand was for as thoroughly up-to-date goods as are to be found in our cities at home, and the feeling extremely kindly towards our products and machinery, but, as in most markets, our goods were being handled by English and German houses; seldom was the American manufacturer known to the buyers, and I am convinced, from personal observation in many countries, that our sales are far less than they could be, for the simple reason that our manufacturers take so little personal interest in the trade. Perhaps one reason why many have not given much thought to the matter is, being absorbed in the trials of to-day and the problems of tomorrow, there has apparently been no time to study the possibilities abroad, and yet never has there been a time when the old mystery, in regard to for-

eign trade, has been so thoroughly cleared up.

Since the establishing of the Bureau of Manufacturers in the Department of Commerce and Labor, more practical, systematic work has been done than ever before through this bureau, its special agents in the foreign field, and the improved work of the consular service (and there now seems to be a possibility of bringing it up to a higher standard, and getting it on a business basis), it is possible to be thoroughly informed as to the opportunities in, and the requirements of, any market, and to get the full advantage of foreign trade, all markets should be studied; in other words, don't put all your eggs in one basket, as some have done, and with a boycott on American goods in China, find their foreign trade almost at a standstill.

As against that, I saw a statement of one New England firm only a few days ago, who said that while their trade in China was practically killed for the time being, it had been offset by increased orders from South America by knowing the various markets, and having connections formed, a war, a boycott, famine, or drought in one country, while to be deplored will not stop your trade, as disaster rarely comes to many markets at the same time, and it is always the proper season for trade somewhere.

The making of these connections should be the work of the manufacturer himself, by coming directly in contact with the buyer in other lands, following the same plan that you find most effective at home. Know the trade, and let the trade know you, through your direct representatives, and you have solved the biggest problem in export trade.

A party now making investigations in South America, who puts the case so plainly that I quote him, says, in one of his late reports, that "buyers of imported goods in every country in the world are interested before all else in what will appeal to their clients in goods adapted to the needs of the particular community they serve. Next to this element of local suitability, and adaptability, comes quality, and next to that price, and last of all, in the rare cases where goods from two or more competing countries equal each other, in all of these respects, there may be an element of preference for one country as against another that may play a small part in reaching the decision. The point here noted is, however, that this matter of nationality cuts a very small figure in the minds of practical and sensible business men. Other things being equal, the buyer may prefer to buy his goods in one country or another, for purely sentimental reasons, but other things very rarely are equal all along the line, so sentiment in international business is a factor of small and decreasing importance."

The man that sells the goods can best tell the manufacturer what will go, and the manufacturer can best tell the buyer whether he can conform to the requirements of the trade, and sometimes it is just as valuable to know where you can't sell as to know where you can; it saves money.

The question may be asked whether all this personal contact may not lead to direct trading, and consequently involve the question of credit, and I answer without hesitation that it will. . . . As you all know, there is a no more potent factor in building up trade than credit, whether it be near by or far off.

Until within the last few years your European competitors have had the advantage of you on that point, but now the advantage, if there is any, is on your side; the use of credit, and the method of determining it, is more fully understood and appreciated with us in the United States than anywhere else in the world. We all like a little credit, and to feel that we can be trusted, and foreign credits should have more attention now that, as an English writer has put it, "all the world plays at shop keeping." Many an American manufacturer has been frightened away from promising markets on account of the credit requirements, and left it to the English, or German, when he could have secured it by making use of facilities already provided.

Some curious customs exist. I will cite one reported by the special agent of

the Department of Commerce. In some parts of China the foreign houses do not even require Chinese merchants to sign orders which have been verbally given for goods. I don't know that a practice similar to this prevails in any other country in the world. These instances are limited, however, to those who have had long experience with the foreign house, and whose reputation for reliability is thoroughly established. The reason for such seeming unbusiness-like conduct was explained to me by a statement to the effect that the bond of a Chinese was no better than his word; that if his word failed, no value could be placed on his paper, for as long as a Chinese merchant had resources, he would pay his bills, and as soon as his resources were gone, no collection could be made on his paper. Through this system the foreign traders can retain a control over the situation by refusing credit beyond what they deem to be safe, and before more goods can be obtained the past obligation must be liquidated. The loss through merchants becoming insolvent is so very slight as to be unworthy of consideration under ordinary circumstances.

The relation of the compradore to the foreign trade also tends to do away with the element of loss, as each compradore is bonded for an amount to which he may make the Chinese merchants liable. The compradore is allowed, besides his salary, one per cent. upon all sales for guaranteeing payment therefor. He, in turn, obtains counter securities from the Chinese merchants, thus securing himself on all sales made by him.

In the past, the difficulty has been in securing the information in regard to foreign houses that you were accustomed to base your action on at home. This is now within your reach through the mercantile agency R. G. Dun & Co., who now have their own offices in all the commercial centers of the world, and are able to post you on the credit standing of business firms everywhere, thus enabling you to stand on an equal footing with manufacturers of Europe, in spite of their many years in the field of export trade. Success abroad depends, to a great degree, on the standing and reputation of the houses that handle the goods locally. This should always be ascertained, whether it is a question of credit or not. It is a serious handicap to place a line in the hands of improper agents, and it often happens that they have been barred out of certain markets for a term of years for that very reason.

I have not touched upon the statements that are always afloat, that we don't pack well; don't give proper attention to orders, etc. I am rather tired of it myself, and you as manufacturers must be; such errors as there may be can be corrected, and I am reminded "that there is so much bad in the best of us, and so much good in the worst of us, that some of us have no right to find fault with the rest of us."

One of the necessities for export growth is to learn where the markets are, how they are to be reached, the time taken to reach them, and the facilities offered to make business worth while.

A thorough and systematic study of trade conditions should be made by men who have a thorough trade equipment, by men who understand the wants and methods of the various people necessary to our trade. We need practical, wide-awake business men. Let the manufacturers get such service, and then have the Senate and Congress learn of such men, and it will not be long before arrangements can be made with any foreign country on a trade basis which would be as favorable for one as the other, and I want to say to you that you manufacturers and business men, organized into boards of trade, chambers of commerce, commercial clubs, or whatever name you choose to use, have it in your power, by concerted action, to bring about any reforms that may be necessary for our commercial welfare; but the work must not stop when you have passed a nicely worded resolution, had it published in your local paper, and instructed your secretary to send it to somebody. Personal effort is required; let our law makers hear from the men that know what they need.

The matter of consular reform, now so prominently before the people, will be carried out, simply because the business

men have become aroused and have taken hold of it, but even if put on the most practical basis, it will not increase our sales abroad, unless the manufacturers themselves are active in making use of the information obtained.

I know that on a "smoke night" you don't want to listen to long addresses, but this is a matter that is worthy of your serious consideration, and I hope it will not pass away with the smoke, and have a place only among the memories of a pleasant evening.

I am inclined to leave with you the question of one of our old political bosses in New York—what are you going to do about it?

C. A. Green.

I plead for the sacredness of the Constitution and for the enforcement of all its provisions; for that first written charter of national freedom born amid throes of kingdoms and empires, to plant, preserve, and perpetuate civil and religious liberty in the world, and designed as a shield for the oppressed and persecuted. It came only after the flames had died out in the crater of a war waged for the equality of man before the law; its price was the blood and treasure of the patriots of the Revolution. It is also the more sacred by reason of the blood spilled and treasure expended in more recent wars for humanity to save it; equality of rights was its central principle. It was made by and for the people.

A perfect union can not be formed, nor justice established, domestic tranquillity insured, common defense provided for, general welfare promoted, and the blessings of liberty to ourselves and our posterity secured by establishing and maintaining an inequality in political power by allowing a few in one state, regardless of conditions or methods, to exercise the elective franchise given to the many in other states of the Union.—Hon. J. Warren Keifer of Ohio, in House of Representatives.

SENATOR LODGE ON NEW ENGLAND.

The railroad rate bill is the most important piece of legislation at the present time before Congress. The Hepburn bill having passed the House of Representatives by an overwhelming majority, it is now being debated in the Senate. One of the strongest speeches on the bill in that branch of Congress was delivered a short time ago by Senator Henry Cabot Lodge of Massachusetts. His reference to New England was a feature of the speech, and it is here reproduced.

I AM trying to argue simply the importance of having a commission worthy to undertake this work, and further, the necessity of guarding it by a proper access to the courts, but this speech about New England was made by an Interstate Commerce Commissioner in my own state and my own city, and I wish to reply to it. I wish to show why we are so very anxious to have this bill, when it passes, a safe as well as an effective bill.

I was describing the conditions of New England, her natural endowments, and those of New York and New Jersey, for they are practically in the same class, and to point out that we were peculiarly vulnerable, because our prosperity rests upon our experience, on our tradition, on our invested capital, on our organization of workingmen and of industry. With unjust treatment they all can be easily broken down and run away.

I desire very briefly now to call attention to some of the interests of New England, and to show how dependent we are upon railroad rates. I saw it stated the other day in some newspaper that the New England senators were dominated by the special interests of New England, by the manufacturing and the railroad interests. Why, in the manufacturing industries of my state alone there are, according to the census of 1900, 500,000 people engaged. To-day, in the railroads of the state, little state as it is, there are 60,156 people engaged. There are from a million and a half to two millions of the population of Massachusetts absolutely dependent on the well-being of the industries of the state and the railroads of the state, and if I am not to represent the interests of those people, whose interests am I sent here to represent?

I may be very easily mistaken in my view, but certainly the only influence that guides me is to try to protect and guard the interests which give my state life and prosperity and income and employment to the people, who live within its borders. That is the only motive that influences any senator from New England or from any state in the Union.

I now wish to call attention very briefly to a few figures which I have put down here simply to show how important this matter of railroad rates is to us. Mr. Prouty thinks we are not fairly treated now. That may or may not be the case. What we want is that the government regulations shall be guarded and shall be safe.

The area of Massachusetts is 8,040 square miles. Her population to-day is 3,003,680, with a density of population of 348.9 to the square mile. The gross value of her agricultural products is $42,298,274, or $15 per capita. The gross value of her manufactured products is $1,035,198,989, or $369 per capita. Her agricultural and manufactured products together amount to $384 per capita.

I desire at this point to quote the following extract from the inaugural message of Governor Guild of Massachusetts:

> Of all the States and Territories on this continent only four contain a smaller area. Because of geographical limitation, as well as from a notable lack of mineral deposits, forests, and rich arable soil, a slow rate of gain in material prosperity might logically be expected of Massachusetts in comparison with many States possessing greater natural advantages. Yet, on the contrary, at the last taking of our national census it was found that Massachusetts, fifth from the foot in area, is seventh from the top in population, fifth from the top in the annual value of her manufacturers, and third from the top in the annual amount paid in wages. Measured by assessed valuation of the property in her bor-

ders, Massachusetts is exceeded by but two States. Fifth from the foot in area, Massachusetts is third from the top in wealth.

* * * * *

Our Massachusetts census, just taken, tells a wonderful story. Immigration does not swarm to hopeless fields. In the decade between 1895 and 1905, Massachusetts added over half a million to her population. It is extraordinary that this great increase, which is, within less than fifty thousand, the same increase that was shown between 1885 and 1895, should have been possible in what was and is, with one exception, the most densely populated State in the Union.

It is more extraordinary that this half million of increase, largely immigrants, should be not merely vast in proportion to area, but, with four exceptions only, larger in actual numbers than the increase shown by any other State or Territory in the whole United States.

The annual value of the manufactured products of Massachusetts increased by but $175,173,033 between 1885 and 1895. It increased by $300,267,558 between 1895 and 1905. The total value of goods made in Massachusetts was $1,150,074,860 in 1905.

The increase in the value of the annual product of cotton goods from 1885 to 1895 was $32,190,463. From 1895 to 1905, in spite of southern competition, it was $38,949,280. The increase in our wool and worsted products between 1885 and 1895 was $7,400,533. Between 1895 and 1905 it was $50,581,514. The increase in our shoe product between 1885 and 1895 was $7,405,548. Between 1895 and 1905 it was $70,271,966.

On October 31 the total amount on deposit in our savings banks was, in 1885, $274,998,412; in 1895, $439,269,861, and in 1905, $662,808,312. The increase in the last decade was greater by over $58,000,000 than in the decade that preceded it. In 1885 the average deposit for each person of population was $141.64; in 1895, $175.69, and in 1905, $220.67. The gain in deposits per capita in the last decade was greater by nearly a third than the gain in the preceding decade.

Massachusetts is the forty-first state in area in the United States; she is the thirty-first in agriculture; she is seventh in population; she is second in density of population, and she is fourth in manufactures. Among all the states in the Union in the capital invested in manufactures Massachusetts is third; in wages paid she is third, and in the number of wage-earners she is third.

New England has an area of 69,973 square miles; a population of 5,592,017. The gross value of her agricultural products is $169,523,435; the gross value of her manufactured products is $1,875,792,081, making a grand total of $2,045,315,516. Of all the capital invested in the United States New England represents almost 20%, and with the Middle States 60%.

On those industries which those figures indicate there are a great many people dependent for life, for existence, for their daily wage, for their homes.

Nothing is more common here than to speak about the half-dozen men in New York who get together and make the rates, as if all we had to do was to break their power, as if that was all that was involved. I desire simply to call attention to the misleading character of such statements, and I take the figures from my own state as an example.

The Commonwealth of Massachusetts in its sinking funds, established for paying the outstanding indebtedness of the state, holds Fitchburg Railroad bonds for $5,000,000; Boston & Maine Railroad bonds, $5,000,000. The amount of railroad securities held by our Massachusetts savings banks and trust companies is $152,551,438.08. The total amount of deposits in the Massachusetts savings banks on Oct. 31, 1905, was $662,808,312, divided among 1,829,487 open accounts. Under the law no account can be over $1000, and the average of such accounts deposited is $362.29. In those institutions, under a carefully guarded law, of those savings of our working people, $662,808,312, there is $152,000,000 invested in railroad securities of different kinds. The total amount of stock of Massachusetts railroads held in Massachusetts is $129,055,425, divided among 36,201 Massachusetts holders. These figures were furnished by the accountant of the Railroad Commissioners of this state as of June 30, 1905. Their report gives a good statement of the railroad situation in Massachusetts. This makes an aggregate of $291,606,863 of railroad securities held in Massachusetts, exclusive of bonds held by life and fire insurance companies and national banks.

We are dealing with the fortunes of all those people, and this law is capable of bringing them to ruin or maintaining them in prosperity. Is it any wonder that we should be anxious about it? We

have not there, as I have said, great natural endowments, the mere possession of which gives us wealth. Whatever we have there we have worked for hard. We ask for no discriminations in our favor. We ask merely for the same equality of treatment that every portion of the Union ought to have. But what we have is perhaps to a greater extent than is true of any other portion of the country the result of more than two centuries of unremitting toil. Naturally in that dense population, dependent almost entirely on industry, there is great anxiety as to the passage of this great bill.

I return now to what I said at the beginning, that, with these great interests, New England desires a good railroad rate bill. She desires, in my judgment, proper railroad regulation and supervision, and she wishes the commission to be made of the highest and best we can get. I am sure that the senators from New England represent her when they say that access to the courts should be preserved; that every man in this country is entitled to his day in court.

We want the sober freedom for which we have paid so great a price, and which we have slowly and painfully built up and maintained. It is not that I apprehend these dangers from this specific bill, but I do apprehend grave dangers now lurking in the readiness to criticise the institutions of government and the courts which administer our justice. Men are of slight importance. Let them say of us what they like and banish us forever, if they choose—we men here—but it is the duty of every one of us to see to it that the great heritage of the past, which has given us freedom and everything we love and have fought for, is handed on untainted and unbroken to the generations which come after us.

PUBLIC SCHOOLS AND WOMEN WORKERS.

HOW far the public schools figure in the lives of those girls who in after life are obliged to work for a livelihood is an interesting problem recently figured out. Statistics were obtained by a representative of the National League of Women Workers, and based upon these figures the Massachusetts Bureau of Statistics has compiled a series of tables. This compilation is based upon returns from 982 women workers engaged in fourteen different occupations in Worcester and elsewhere. The largest number of any one class of employees interviewed were stenographers and typewriters, 202 of them being seen, or about 20 per cent. of the total number.

Saleswomen rank second, with 16.80 per cent.; clerks in other lines, 16.29 per cent., and bookkeepers 12.63 per cent. Teachers, dressmakers, milliners, nurses, laundry-workers, box-makers, domestics and packers made up the balance of the list. Altogether two-thirds of the total number were engaged in occupations peculiar to commercial rather than to manufacturing lines.

The compilations further show that 80 per cent. of those interviewed were of native birth, and 20 per cent. were of foreign birth. Of those of foreign birth more than 75 per cent. came to this country under fifteen years of age, while the balance were fifteen years or over. About 25 per cent. of the foreign element received what education they had in their native country, one-sixth began their education at home but con-

tinued it in this country, while three-fifths of the number received their entire education in the United States.

Of the total number of women educated in the public schools, about three-quarters completed the grammar grades. In the different classes teachers, of course, ranked higher than any of the others, 92.31 per cent. finishing the grammar grades; of stenographers and typewriters 80 per cent. went through the grammar school, and 75 per cent. of the bookkeepers. The lower percentages in other occupations form a striking contrast. Only 25 per cent. of the domestics went through the grammar grades, and the same percentage holds true of the nurses. Envelope packers rank the lowest of all, less than one in eight having a grammar school education.

Of the total number considered, about a quarter commenced work between the ages of ten and fourteen years, and two-thirds between the ages of fifteen and twenty years. Practically two-thirds of the total number began work at the occupation in which they are now engaged. Considering the economic relation of the worker to her home, 20 per cent. were found living at home and paying board; 60 per cent. contributed money for household expenses; the balance did not live at home at all. This shows the large proportion of young women, outside even of the mill towns, who go to work to help out the family in expenses, and perhaps to clothe themselves.

As divided into classes, some of the most interesting figures are to be found in the division for bookkeepers. The salaries for these bookkeepers ran all the way from $5 to $25, and nearly 75 per cent. of them had finished grammar school courses before going into the work of keeping books and accounts. Most of the number started in as bookkeepers between fifteen and nineteen years of age, a few when older than nineteen, and a still smaller number under fifteen.

A wide diversity in the amount of wages paid to clerks was found in a compilation of the tables. The smallest paid clerks received but $3 per week, and from that figure it ran all the way up to $18 per week, which was the maximum amount paid. The clerks were apparently a slightly better paid class, as a whole, than the dressmakers, whose maximum pay was but $14 per week among those seen. Like the clerks and the typewriters, more dressmakers began plying the needle and thread at around nineteen years of age than at any other period of their life.

The figures on domestics and those engaged in housework vary but little throughout the State from the established standards in Worcester. For skilled servant work in families of four or more, $3 per week was about the minimum, and from that it ranged up to $5 per week. Very few from other classes of employment, the figures show, enter housework, and conversely those who start in to do housework usually remain in the kitchen until marriage gives them a kitchen of their own.

The percentage of women employees who avail themselves of the privilege of night schools is considerably greater than would be imagined. Among the clerks there is apparently very little tendency to attend evening school, while among the housemaids a very considerable percentage attend. Although the bureau's report makes no mention of the fact, a larger number of persons attend night school from the ranks of the domestics in Worcester than from almost any other city in the Commonwealth.

The general tenor of the report goes to show that something more in the way of industrial education than anything in that line that is now offered is required for the working women of Massachusetts. Throughout the various employments in which women are employed in any numbers, it is almost always shown to be the rule that the best paid classes of employees are those in which the members have most generally availed themselves of the educational privileges offered.

WORCESTER BOARD OF TRADE.

BANK BUILDING, 11 FOSTER STREET.

OPEN 8.00 A.M. TO 5 P.M. PRESIDENT'S HOURS: 1 TO 2 P.M. MONDAYS, TUESDAYS, WEDNESDAYS AND FRIDAYS.

PRESIDENT, HARRY W. GODDARD. VICE-PRESIDENT, PAUL B. MORGAN.
TREASURER, H. WARD BATES. SECRETARY, HERBERT M. SAWYER.

Directors.

IRVING SWAN BROWN,	H. W. GODDARD,	WM. A. LYTLE,	GEORGE F. BOOTH,
RUFUS B. DODGE,	CHARLES L. ALLEN,	WM. H. COUGHLIN,	IRVING E. COMINS,
PAUL B. MORGAN,	EDGAR REED,	GEO. B. BUCKINGHAM,	J. RUSSEL MARBLE,
ALFRED THOMAS,	JOHN A. SHERMAN,	GEO. T. DEWEY,	THOS. T. BOOTH,
JAMES C. STEWART,	PLINY W. WOOD,	REGINALD WASHBURN,	GEORGE F. BROOKS.

Clerk of the Corporation, CHAS. PERKINS ADAMS. *Auditor*, CHARLES A. CHASE.

Chairmen of Committees.

Advisory—Rufus B. Fowler. Membership—Edward B. Dolliver. Ways and Means—William H. Coughlin. Manufactures—Alfred Thomas. Meetings and Receptions—George F. Booth. Mercantile Affairs—Irving Swan Brown. Transportation and Railroads—Paul B. Morgan. Statistics and Information—Irving E. Comins. Arbitration—George F. Brooks. Legislation—Rufus B. Dodge. New Enterprises—James C. Stewart. Municipal Affairs—William A. Lytle. Taxation and Insurance—Reginald Washburn. Foreign Trade—Charles L. Allen. Publication—Rufus B. Fowler. Education—J. Russel Marble.

The Worcester Board of Trade wants to keep on file at the Secretary's office a complete list of places where floor space can be secured for manufacturing and business purposes. There are calls made every day for such information. The Secretary would appreciate it if every owner of a building in Worcester used for manufacturing or mercantile business would furnish particulars of what he has for renting purposes, and if land-owners would also file a list of available building sites. State owner, location, whether store or factory, amount of floor space, amount of power available and approximate rental. If it is land for manufacturing purposes, state owner, location, number of square feet, general dimensions, any building thereon; if so, give floor space, number stories, brick or wood, power plant with horse power, and purposes last used. Also give name of railroad near it and side-track facilities. Give price that can be used as basis of negotiation.

This information is for the use of the Secretary, and is not to be used for any purpose except to locate new or present business interests. No compensation is to be asked for any lease or rental that may be brought about by the Board of Trade.

The annual banquet of Worcester Board of Trade takes place in Mechanics Hall on the night of Tuesday, April 17. The principal speaker will be Gen. Charles H. Grosvenor of the Eleventh Ohio District in the National House of Representatives, and other speakers are being engaged to make a list as attractive as was that of the banquet of a year ago when Hon. William H. Taft, Secretary of War, was the guest of honor. The details of the banquet will be sent out from the office of the secretary by the Committee on Meetings and Receptions as quickly as they are completed.

On account of the date of the annual banquet falling on the third Tuesday of April, the date of the annual meeting of the Board, it will be necessary to postpone the annual meeting to a later date—probably the following Tuesday. At that meeting five directors will be elected for four years, a clerk, a Membership Committee for one year, a treasurer and an auditor. Reports of the various committees and officers will be made at the same time.

William Forsberg of Quinsigamond is interested in a plant to be erected on land near Outfall Avenue for the manufacture of cement brick. There has been a demand for a better brick than the ordinary sand struck brick at a reasonable cost, and it is claimed the cement brick meets the demand.

Edward E. Dodge, for several years connected with the Union House Furnishing Co., has severed his connection with that concern and organized the Dodge Furniture Co., a corporation chartered under Massachusetts laws. Mr. W. L. Whalen, who has been connected with Union House Furnishing Co., is to be secretary of the new concern and business will be done in the W. H. Sawyer Building at 615 Main Street.

THE WORCESTER MAGAZINE

ol. IX. MAY--1906 No. 5.

Magazine and Municipal Comment.
Worcester Tech. Hydraulic Testing Plant.
Worcester County Indian Names.
Board of Trade Annual Banquet.
Board of Trade Notes.

DEVOTED TO

Good Citizenship and Municipal Development

PUBLISHED MONTHLY BY THE BOARD OF TRADE
WORCESTER, MASSACHUSETTS,
U. S. A.

1.00 A YEAR. 10 CENTS A COPY

CENTRAL SUPPLY CO.

Steam and Gas Supplies

Wholesale and Retail

Wrought Steel
Cast Iron
and Brass

PIPE

All Weights
and Sizes
1-8 to 24 in.

Automatic Sprinklers

Brass *and* Iron Fittings

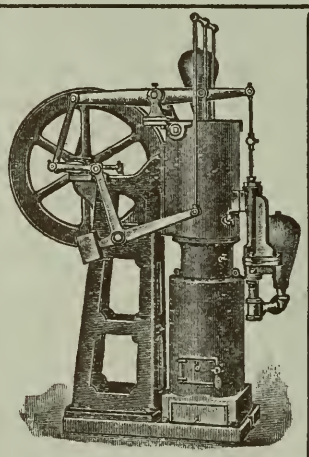
Tanks

Inspirators

Injectors

Traps

Hand *and* Power Pumps



Ericsson Hot Air Engines

Oil Filters

Wind Engines

Brass *and* Iron Valves

Towers

Pipe Tools

Railing Fittings

Pipe Covering

Hose, Etc.

The Leading Makes of

Steam and Hot Water Heaters

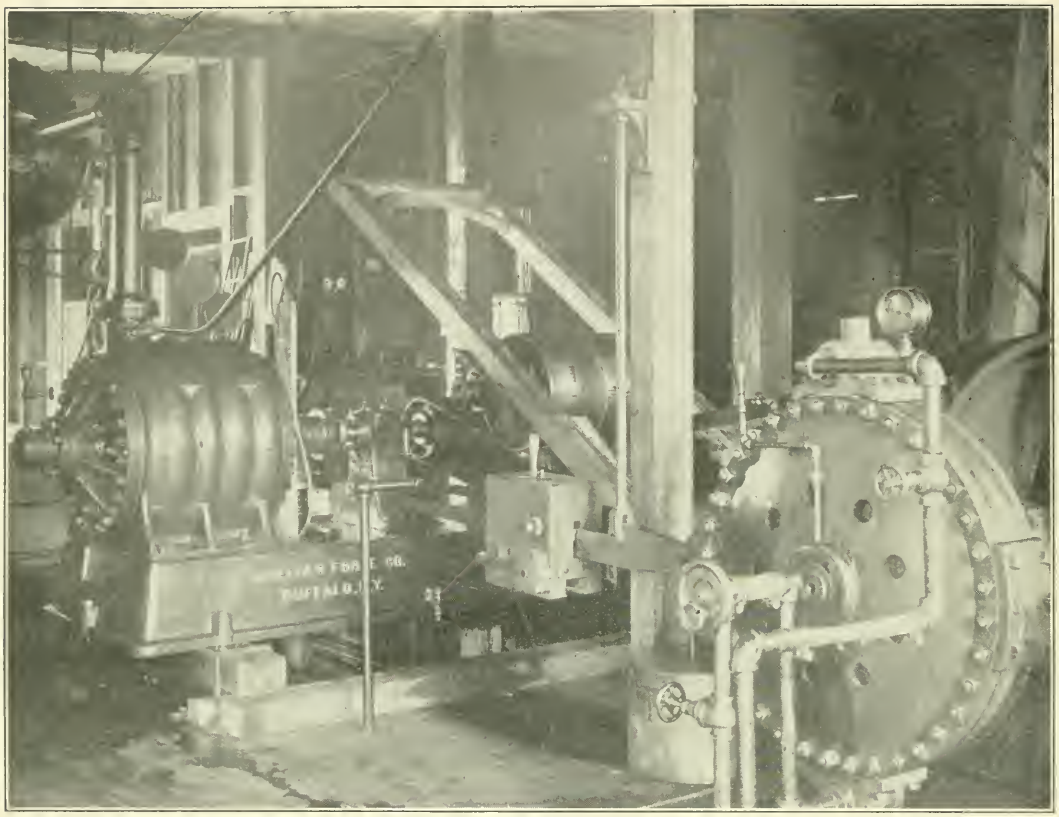
Radiators of all kinds and sizes

Send us your address and receive estimate (free) from responsible fitter for heating your home, store or factory.

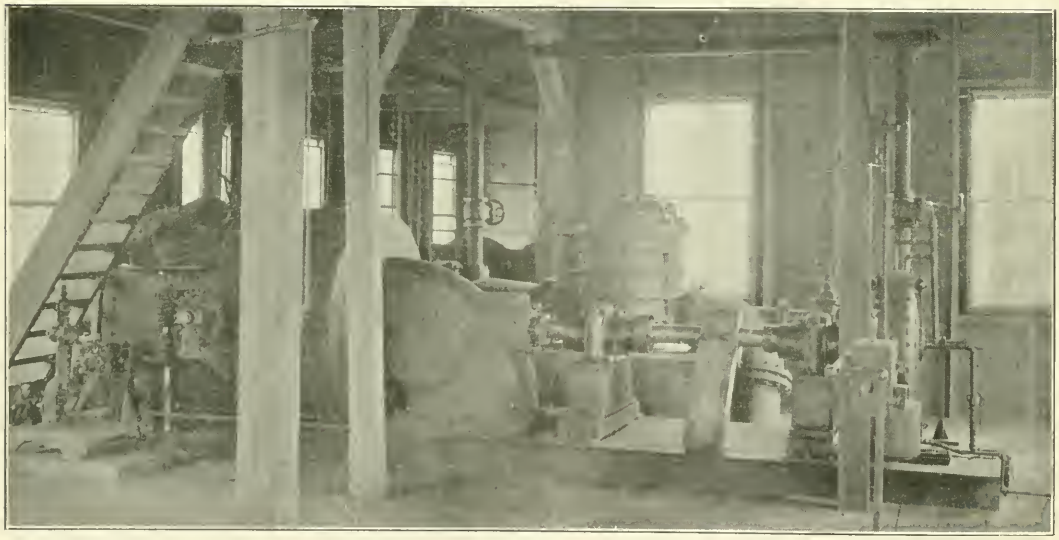
Pipe cut to sketch. Complete Steam, Automatic Sprinkler and Heating Outfits. Pumps and Pumping Appliances of every description.

35 and 37 Waldo Street

WORCESTER, MASSACHUSETTS



ALDEN DYNAMOMETER AND PUMP UNDER TEST.



PORTION OF HYDRAULIC TESTING LABORATORY.

VIEWS OF THE WORCESTER POLYTECHNIC INSTITUTE HYDRAULIC TESTING PLANT.

The Worcester Magazine.

VOL. IX. MAY, 1906. NO. 5.

This magazine is published by the Worcester Board of Trade. Its reading pages are devoted solely to municipal development, good citizenship and the business welfare of Worcester. Space in these pages is not for sale.

MAGAZINE AND MUNICIPAL COMMENT.

Disappointment Turned to Rejoicing

Worcester Board of Trade planned well for its annual banquet. It is not always absolutely safe to rest on carefully made plans for results. Gen. Chas. H. Grosvenor of Ohio, a national figure of prominence, and Mr. George H. Daniels of the great New York railroad system, were scheduled as the principal speakers, but on the day of the banquet both failed by reason of sickness to fill the engagement. Fortunately, the Worcester Board has good friends, and when the banquet was served the places of the distinguished national and railroad guests were filled at the head table by Mr. Herbert Parker, formerly attorney-general of Massachusetts, and Mr. Robert Luce of Somerville, member of the lower branch of the Massachusetts Legislature. Because these men, who are particular favorites in Worcester, were so kind and considerate to accept the invitation at the last moment, they were given a brilliant ovation, and both were at their best at the after-dinner exercises. Mr. Parker, in his graceful, eloquent and forceful way, gave the members of the board some sound advice in business matters after an exceptionally bright, witty and keen preface to his speech. Mr. Luce, although not a stranger to a Worcester banquet, held the closest attention of the large gathering until the final word had fallen from his lips. While there was some disappointment at not hearing General Grosvenor and Mr. Daniels, the banquet was an unqualified success in every particular. After entertaining Secretary of War William H. Taft a year ago, it seemed difficult to maintain that high standard of social events, but it was done this year. The Board of Trade members agree that the 1906 banquet stands well to the front of all the social occasions of the organization.

Congress for Free Alcohol

The bill for free alcohol has passed the House of Representatives and its friends have won a great victory. With the removal of the internal revenue duty from denatured alcohol for use in the arts and sciences, the manufacturing interests will reap a great benefit. Special interests of one kind and another opposed the bill, and attempts were made to add amendments that would make it practically ineffective, but so widespreading was the demand for the act, and so far-reaching for good are the possibilities in alcohol as fuel for power, light and heating purposes, that it is difficult to see how any interest could be affected but beneficially by the provision sought in the measure. In its last analysis the question is not one of a displacement of materials now used in the arts, it is not one of competition among fuels, but it is one of a distinct and much-needed addition to the total

fuel supply of the country, an addition not supplanting other fuels, but supplementing them in ways that will ultimately be to the benefit of all. Hundreds of thousands of farmers have been waiting for the law permitting the use of alcohol free of revenue duty, for it means a tremendous widening of the markets for their products and greater economy in farm operations. Thousands of manufacturers have been likewise waiting for the to-be-expected expansion of their undertakings. In the betterment of these two important classes all citizens of the country will be benefitted.

Worcester County Indian Names

A review of Mr. Lincoln N. Kinnicutt's "Indian Names of Places in Worcester County" appears in the present number of the Worcester Magazine. Mr. Kinnicutt has always been interested in the Indian names of New England, and, as printed in the introduction to the book, his object in writing the paper is the collecting together of Worcester County Indian names, which in many cases have been known only to the very few, who, having occasion to search the original deeds, have unexpectedly found them. It is, according to Mr. Kinnicutt, a matter of regret that the Nipmuck names are not more generally used. They belong to Worcester County and are remindful that it has a past history dating far back of 1620. They were the only possession that we were unable to take from the red man, and now they have come to us as residuary legatees. These names are about the only relics of an ancient people who once inhabited our own county.

The paper by Mr. Kinnicutt, which makes a book of about 60 pages, is of exceptional interest in a historical way, and is a valuable addition to the writings of Worcester County's early days. The writer of this paper has made a valuable acquisition to historical writings, and the paper represents a vast amount of research and work in going as nearly as possible to the font of knowledge covering Worcester County's Indian names.

The Right to Work

Recorder Goff recently passed sentence on Frank Hawkins, a striking iron-worker accused of having attacked and brutally beaten a strike breaker. The words used by Recorder Goff are worth general circulation among labor unions the country over, for nothing could more clearly set forth the principle involved in this and similar cases.

Labor unions are being brought by force of circumstances to see that such occurrences as this in which Hawkins figured do more to injure the cause of labor and of labor unions than anything that legislatures or capitalists could do. In this case Recorder Goff, speaking to Hawkins, said:

"The law gives to you and to every workingman the right to organize for the betterment of your condition; the right to sell your labor to the highest bidder; the right to refuse to work for any one that you do not like; the right to withhold your work except on conditions that are agreeable to you. The law even goes so far as to extend to you the right to persuade other men to adopt the same course, but when men representing organized labor step over the very broad and generous provisions of the law and use violence as an argument to enforce their views upon their fellow-men, then the law is violated, and not only the rights of the individual are trampled upon, but the peace and safety of the community are in danger. I think every true friend of the workingman and every honest and sincere workingman must feel regret every time a man connected with a labor organization takes the law into his own hands and commits an act of violence."

The moral right of a strike breaker to work upon a union job (which point also Recorder Goff touched upon) is a matter for debate, perhaps; union men will see no virtue in the strike breaker's efforts. Be that as it may, it has no bearing on the more important issue of violence. Let the labor unions take what view of the right to work they choose; let them use every lawful method of persuasion to keep other workers away from non-union jobs, if they will. Those questions will be settled some

day. But as soon as violence becomes a recognized weapon of unionism, as soon as beating and assaulting non-union or other workers becomes the commonplace of labor union methods, then the end of the power of the labor union is near. The labor unions have a right to make an earnest fight; let the fight be square in its methods.

The Man with the Muck-rake

There is in President Roosevelt's famous speech at the laying of the cornerstone of the office building for the House of Representatives much to think about, and if his advice is followed, the world cannot help being better for it. He severely and justly condemns the man who never does anything else, who never thinks or speaks or writes save of his feats with the muck-rake, who speedily becomes not a help to society, not an incitement to good, but one of the most potent forces for evil.

All admire President Roosevelt's speech, for he took from Bunyan's Pilgrim's Progress a simile to impress upon the world that there is something bright in it, and it is not so filled with wickedness, and evil doing is not so prevalent as we would be made to believe. There are bright things to contemplate and there are jewels to be had if we will look up and reach for them. So much for the sermon feature of the speech. But in another sense the "man with the muck-rake" is a good fellow to have in a community, and the great fault in many cities, and Worcester is not an exception, there are not enough muck-rakes. There are public buildings in Worcester that rightly should be kept in the most cleanly condition, which are allowed to maintain deposits of filth that cause considerable comment, and the reputation of the city is just so much injured by such a condition. Strangers have been taught to believe that Worcester is one of the ideal cities of the United States, and so it is. But there is nothing so appeals to a stranger as cleanliness. Recently the Street Department has inaugurated a system of street cleaning that has already demonstrated its wisdom. The argument may be brought up that it is costly, but assuming that it is, a great benefit accrues from such detail of system. But the cost is no more than under a former system of street cleaning. The idea is an excellent one, and in the Street Department the man with the muck-rake is making a more attractive city of Worcester. Public buildings, of all others, should be kept clean all the time, and business houses should cultivate this habit of cleanliness. The City Council should make such ordinances that will oblige storekeepers and property owners to pay more attention to cleanliness. Let the people follow the injunction of the President of the United States, and make for a better country by seeing that which is lofty and keeping away from that which is debasing and vile, but from the viewpoint of cleanliness in municipal life—in material conditions—don't take away the muck-rake.

To Beautify their City

The American Civic Association reports that, acting upon the principle of civic pride, retail merchants of lower Jersey City are cooperating in a movement having for its object the general betterment of the down-town shopping centre. This movement may, it is intimated, take the form of period of show window displays, nightly electrical exhibitions and musical and other attractions. Included in the general plan it is likely that a scheme to show what can be done in the way of keeping the public thoroughfares immediately adjacent to the merchants' places of business in a state of model cleanliness will be carried out.

Subscriptions from Board of Trade

Among the first to make a contribution for the San Francisco sufferers was the Worcester Board of Trade. Through its President, at the organization and meeting of the Worcester Relief Committee at City Hall Patriots' Day morning, the subscription was made and more than $3000 was raised. That sum has been increased to more than $25,000. The first individual subscription of $1000 was subscribed at that meeting. The Graton & Knight

Manufacturing Company, which maintained a branch in San Francisco and was a heavy loser by earthquake and fire, contributed $1000, and this was followed the next day by a $1000 contribution from the Royal Worcester Corset Company, another Worcester concern which had a branch in the western city and experienced a loss upward of $50,000. Other concerns which have branches and do business with San Francisco merchants made large subscriptions, and Worcester will go to the Pacific Coast with a reputation of standing by its sister cities when the hour of affliction comes. The Relief Committee selected Mr. Harry W. Goddard, president of Worcester Board of Trade, as chairman, and after the organization of the committee he subscribed $100 for the organization of which he is at the head.

Worcester's Manufacturing Census

The manufacturers' census for 1905, forwarded to the Board of Trade by the Census Bureau at Washington, and made public within the month, shows that Worcester has made a decidedly creditable gain in five years, and is holding her own as a manufacturing city in comparison with any in the country. The government has made a comparison with an output of $7,327,095; metals and figures to manufacturing establishments with a product of $500 or more, thus excluding the neighborhood industries and hand trades, such as the building trades, dressmaking, custom millinery, cobbling and blacksmithing. The returns show that Worcester now has 470 manufacturing plants of the first class against 465 in 1900, with a capital invested of $48,771,852 as against $41,384,128 in 1900, a gain of 17.8 per cent. The number of wage-earners is 22,796 as against 22,593 in 1900, and they earn $11,825,275 against $11,280,925 in 1900, an increase of 4.8 per cent. The largest percentage of increase is in the number of salaried officials, the per cent. of increase being 54.1 per cent., and an increase of 39 per cent. in salaries paid. The important figure of the census is the value of the product manufactured, and the figures show that in 1905 the valuation was $52,144,965 against $46,793,372, an increase of 11.4 per cent.

The figures show the records for the last census to be as follows in different lines:

Boots and shoes, 10 establishments, with an output of $1,724,664; clothing establishments, 35, with output of $3,569,417; food preparation, 49, with an output of $3,563,168; machinery, 78, with an output of $7,327,095; metals and metal goods, 54, with an output of $15,492,999; printing, publishing, etc., 48, with an output of $1,031,703; worsteds and woolen goods, 14, with an output of $3,530,002; other industries, 182, with an output of $15,905,917, making a total of 470, with an output of $52,144,965.

What a Board of Trade Can Do

In an address to the American Civic Association in Cleveland some weeks ago, President Ambrose Swasey told how Cleveland business men have improved their city and what good has been done in this direction through the Chamber of Commerce, which is the Board of Trade of that city. He said that many chambers of commerce and boards of trade occupy themselves entirely with trade, business and financial matters, but the Cleveland organization, besides exerting a helpful influence in these matters, extends its field of usefulness far beyond. It touches helpfully every phase of the life of that great city. It seeks not only to be alive to present needs, but endeavors to look into the future and make wise provision against contingencies of the years to come. It has considerable to do with a plan which provides for the grouping of the public and semi-public buildings about a central mall extending from the lake to the public square, forming a stately gateway to the city. This plan involved the expenditure of more than $13,000,000. It has advocated all reasonable plans for the improvement and extension of the park system. It has investigated the sanitary conditions in the public schools and made such recommendations which, when carried out, were for the betterment of that great system. With an in-

dustrial committee the Chamber of Commerce has furthered the adoption of plans for the betterment of the condition of employees. The committee took the ground that good wages, reasonable hours and comfortable and sanitary surroundings are basic principles in this work, and that the highest efficiency of a business can be reached only by bringing about the highest efficiency of its various elements. This feature of Board of Trade work has had a wonderful effect in the labor problem in Cleveland.

Public playgrounds have been considered by the Cleveland Chamber of Commerce, the condition of streets has been improved, an exhaustive sanitary code has gone into effect after much agitation, embodying the better features of health and laws throughout the country and abroad. Food inspection, medical inspection in the public schools and communicable diseases have been considered by special committees from the Cleveland Chamber. The Chamber of Commerce keeps in touch with benevolent organizations, and works in harmony with the management of these charitable clubs. An education committee works with the school officials in the betterment of school conditions, a municipal committee has done a great deal in connection with the municipal forestry department, the congestion of vehicle traffic, the lack of system in numbering and naming streets, and a dozen or more other municipal affairs are taken up by the Cleveland Chamber of Commerce, and the committee works in these matters in conjunction with the committees from the City Council. There is no reason why Worcester may not be equally as useful through its Board of Trade. The principal purpose of a Board of Trade is for the betterment of the city, and work along the lines above suggested would accomplish much that is healthy and give the Board a standing in the country for progressiveness.

Massachusetts' Mercantile Census

Mr. John J. McFarlane, a writer on statistics, in Commercial America, has analyzed the report of the first census of commercial sales ever taken in the United States by either state or national government, and which has just been issued by Massachusetts for the year ending Dec. 31, 1904. It gives the total value of goods sold in Massachusetts during the year of all cities and towns having three or more mercantile establishments, as $1,384,241,383. Of the 354 cities and towns included in the census thirteen cities are named having sales of over $10,000,000. These thirteen cities are credited with 86% of the sales, and Boston, and Boston alone with 70%.

This concentration of the sales is quite in contrast with that of the production of the manufacturing industries throughout the State. According to the census of 1900 the first twelve of these cities are also the first twelve manufacturing cities, although not in the same order. They, however, only produced 60% of the manufactured goods of the State, and Boston only 20%.

The total value of the manufactures of Massachusetts in 1900 was $1,035,198,989, of which Boston produced 206 millions; Worcester, 53; Lowell, 44; Lawrence, 44; Fall River, 43; Lynn, 41; Cambridge, 39; Brockton, 26; Holyoke, 26; New Bedford, 25; Haverhill, 25; Springfield, 21; Somerville, 21.

Of these cities, Fall River, Lawrence, Lowell and New Bedford are textile cities; Brockton, Lynn and Haverhill are largely engaged in the manufacture of boots and shoes; Holyoke, in the manufacture of paper and textiles; Worcester, the second city in population, has diversified industries, of which the manufacture of machinery is the most important. Springfield, famous for the manufacture of arms at the United States Arsenal, is now largely devoted to the manufacture of machinery and textiles. Cambridge is mainly interested in the publishing of books, and Gloucester in the fishing industry. Boston is the largest manufacturing city in the State, producing 206 million dollars' worth of manufactured goods, or one-fifth of that of the whole State. Sugar refining and book publishing are the most important manufacturing industries.

This concentration of mercantile sales in Boston will be found to have a parallel in the areas surrounding all the large

cities like New York, Philadelphia, Baltimore, Pittsburg, Chicago, St. Louis, Cincinnati and Cleveland. The concentration will be probably greater the larger the city is. Unfortunately, at present there is no way of proving this, as there are no statistics on which to base such an assumption.

The trade of the city of Boston by particular kinds of business and value of the goods sold is shown in a chart. The largest item is dry goods and department stores, these being combined in order not to disclose private business. The large sale of wool brings out the prominence of Boston as a wool market.

Boston is the centre, not only for the cities of Massachusetts, but also for those of states like New Hampshire and Vermont, many of the towns of which are nearer Boston than towns in western Massachusetts. A large part of the goods sold in Boston are not made in Massachusetts, but it is the port of entry for all foreign goods entering the State, and the point of distribution for most of those coming from other states.

Made in Worcester

An article made in Worcester is made well. This is an axiom of trade, whether at home or abroad. Worcester-made goods are the best possible.

Yet few persons other than the wholesalers know the origin of goods as they are sold over the counter. The buying public sees no mark and has no means of knowing where the goods are made. A similar remark applies to goods made in other cities and other countries. It used to apply to German-made goods. But now all the world knows German goods by the little motto, "Made in Germany."

Baltimore is trying the experiment on goods made in that city. It is obvious that goods of even the average quality, if stamped with the motto, "Made in Baltimore," wherever they are sold, will tend to advertise the city of Baltimore. The question occurs as to why Worcester goods should not be stamped with the motto, "Made in Worcester." It is time to let the world know where the good goods come from. —Worcester Gazette.

Worcester's Helping Hand Extended

The sympathetic heart of Worcester is quick to respond to the call of distress. It has been proven before. It is proven now. San Francisco has been the victim of the worst calamity that ever visited a city on the American continent. Earthquake and fire, for which no man was responsible, practically wiped out of existence the structure of that great Pacific metropolis. Business and residence blocks leveled, and thousands of persons made homeless, the call for help went out and Worcester was among the first to respond. While the flames were yet devouring the city, Worcester was planning for her relief. Mayor John T. Duggan, and Mr. Harry W. Goddard of the Worcester Board of Trade, in conference decided upon action, and a mass meeting was held in the Common Council chamber Patriots' Day morning. It was a representative gathering, and the appeal for help for a sister city was instantly heeded. Many thousands of dollars have gone to the assistance of the people of that devastated city. Although separated by the width of a great country, the business relations of Worcester and San Francisco have been such that a bond of sympathy between the two has always existed, and when San Francisco fell under a crushing blow, Worcester was one of the first to extend the helping hand.

THE HYDRAULIC TESTING PLANT OF THE WORCESTER POLYTECHNIC INSTITUTE.

DURING the past few years the growth of the Worcester Polytechnic Institute in resources, equipment, and number of students has been such as to attract widespread attention. Founded originally as a purely Worcester County Institution, it is to-day attracting students from all over the United States, and the number of foreigners coming to Worcester for an engineering education is also increasing year by year.

Among the most unique and striking features in the equipment of the Institute, a feature which has added in an appreciable degree to the efficiency in the instruction which it is possible to give its students, is the hydraulic testing plant, located about five miles from the City Hall, at the village of Chaffins in Holden, directly on the line of the Worcester & Holden Street Railway. The study of hydraulics has always formed an important branch of engineering, and in recent years, with the application of high tension electric currents to the transmission of power, hydraulic engineering has come to assume a position of greater importance than ever before. For this reason the hydraulic testing plant of the Worcester Polytechnic Institute has become a feature of such importance as to warrant a more detailed description in the pages of the Worcester Magazine than has heretofore been given.

The first suggestion of a plant of this kind was made by Prof. Geo. I. Alden, formerly professor of mechanical engineering at the Institute. At that time there was no educational institution in the United States which possessed adequate facilities for hydraulic work, and the fact was recognized by Professor Alden that a comparatively small outlay would put the Institute in the possession of an equipment far superior to that possessed by any other engineering college, either in this country or abroad. The suggestion thus made by Professor Alden was welcomed by the trustees and was at once acted upon. Mr. Salisbury, at that time president of the Board of Trustees, gave for the purpose a valuable water privilege at Chaffins, embracing about 200 acres; and from the State appropriation of $100,000, which was made in 1894, the building was erected and a beginning was made in equipping it for hydraulic testing purposes. This equipment has been added to from time to time, both by purchase and by gifts from various sources, until the equipment for this work which is now possessed by the Worcester Polytechnic Institute far surpasses what was originally designed by the authorities at the time the testing plant was erected.

Since the building and equipment of this laboratory, the facilities possessed by the Institute for hydraulic work of all kinds have kept it well in advance of its competitors, and it is as true to-day as it was when the building was built a dozen years ago that no other educational institution in the world possesses a hydraulic equipment superior to that of the Worcester Polytechnic Institute; and with perhaps a single exception there is no other educational plant in the world which is its equal.

With the relative increase in the importance of manufacturing in the world's economy, the commercial importance of water power is also showing a striking increase. This is well illustrated by the eagerness with which power privileges have of late been sought at Niagara Falls; by the rapid utilization of the vast amounts of power obtained from the Pacific coast streams in the Cascade Mountains of Washington, Oregon and California; and by the systematic work which has recently been undertaken by the United States government in surveying different river basins with the especial object in view of ascertaining the greatest amount of power which it would be possible to derive for manufacturing purposes. Of this, a notable example is the work done during the last two or three years by the national government in surveying the water-shed of the Penobscot River in Maine, for the purpose of ascertaining

the amount of power which still remains undeveloped. Incidentally, it is of interest to residents of Worcester to know that this work has been in charge of a Worcester Polytechnic Institute graduate, Prof. Arthur D. Butterfield of the University of Vermont.

At the hydraulic testing plant are to be found the most complete facilities for the testing of all kinds of hydraulic machinery. Throughout the eastern states the head of water which it is possible to obtain is always limited, varying from only a very few feet to a maximum of perhaps 200 feet. Among the mountains of the Pacific Coast, on the other hand, it is possible to obtain a head of 500, 600, 800 feet, and even more. These different conditions call for radically different types of machinery; and one of the most interesting features to be found at the Worcester Polytechnic plant is the ingenious arrangement by means of which tests can be conducted on each of these widely varying types. The actual head of water which is connected with the power plant is about 30 feet, and for ordinary testing of water turbines in common use in manufacturing plants in the East this is ample. But by an exceedingly interesting combination, which one is tempted to characterize by the familiar football term of "tandem," the low-head turbine is used to drive a multi-stage centrifugal pump, which in turn gives a working head of water of approximately 800 feet. The water which acts under this enormous pressure is then used to operate a Pelton water wheel; and thus exactly the same result is obtained, as far as experimental purposes are concerned, as though the testing plant had at its command an actual fall of 800 feet of water. Thus, the student has placed at his disposal a testing plant which enables him to work with hydraulic machinery which is fitted to the most widely varying conditions—from the low-head water turbines of the East to the high-head water wheels now in such common use on the Pacific Coast.

In former times power derived from a water wheel was always used on the spot; and the dam and the mill were always located side by side. This method of utilizing power is, of course, still in common use, and it always will be used as long as power is derived in this way. But during the past few years another method of employing power obtained by hydraulic means has come into common use, and is to-day of the very first importance from a commercial point of view. This consists in the transformation of the power obtained from a water wheel into an electric current. This current can then be transmitted over a wire to a distance of 5, 10, 100, or perhaps even 500 miles and then used in some manufacturing establishment. This fact has given to hydraulic work of all kinds an immensely added importance, and the Worcester Polytechnic Institute, true to its traditional policy of always keeping in the front rank, has been quick to recognize the new conditions brought about by the application of hydraulics to electrical transmission, and to equip itself in such a way as to train its students for meeting the problems thus brought into prominence.

Any accurate description of the equipment of such a place as the hydraulic testing plant is necessarily more or less technical. In the following an attempt has been made to give a brief summary of the chief points of interest at this plant in as non-technical a manner as possible. The description is furnished by Prof. C. M. Allen, to whom is due in great measure the present admirable condition of the plant. It is abridged from an article by Professor Allen, which appeared in a recent number of the Engineering Record:

"Water is conducted to the plant through a 40-inch steel riveted pipe about 400 feet in length between the head gate and the building. The pipe line has a gradual slope, and is equipped with piezometer rings placed about 10 feet from either end. The accompanying drawing (Fig. 1) shows the profile of pipe line, the location of piezometer rings, etc. A 36-inch Venturi meter is inserted in the pipe line just inside of the building, giving a means of measuring the water before it passes through the turbine

"An 18-inch Hercules horizontal turbine with a 12-foot draft tube furnishing about 80 h. p. is available for various experimental purposes, such as power and efficiency tests. The turbine, after being carefully rated by an Alden absorption dynamometer mounted on its shaft, can be used as a transmission

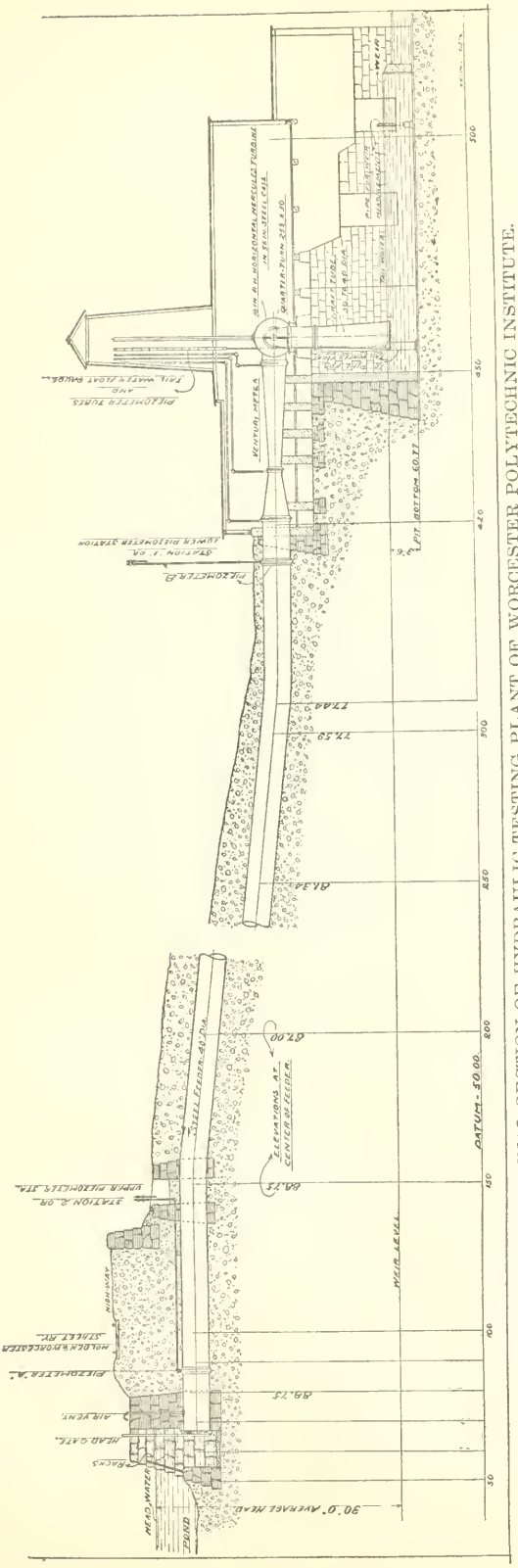


FIG. 1. LONGITUDINAL SECTION OF HYDRAULIC TESTING PLANT OF WORCESTER POLYTECHNIC INSTITUTE.

dynamometer to drive pumps and machines of all kinds to determine their efficiency.

"The turbine discharges into the weir flume in the basement. At the lower end is located a standard 10-foot weir, with end contractions. The weir flume is 60 feet long by 16 feet wide, with a depth of 3½ feet below the crest of the weir. It has a smooth plank bottom, and is enclosed with brick walls. There are two sets of hook-gauge tanks set flush with the brick walls and extending down to the bottom of the flume. The length of weir is adjustable from 16 feet, without end contractions, to as small as desired with end contractions.

"A series of experiments is now being made to ascertain the loss in head due to friction of flow through the pipe line with varying velocities, both before and after the pipe is cleaned and painted. The water passing through the 36-inch Venturi and over a

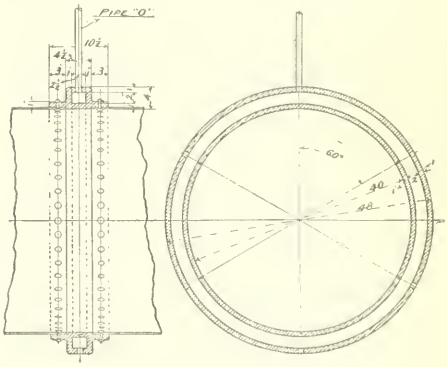


FIG. 2. PIEZOMETER RING.

10-foot standard weir is thus measured, and a mean velocity of flow determined for each test. Complete results of this series of experiments will soon be published.

"A Cole-Flad pitometer is installed in this line and the readings taken during the tests will furnish accurate means for the calibration of the instrument.

"The 36-inch Venturi meter above referred to has the upstream, throat and downstream piezometer rings connected with 1-inch piping to ¾-inch glass tubes located in the tower of the building. The upstream and throat rings are piped to the automatic recorder furnished with the meter. Piezometer tubes and water gauges for showing the heads on the various pieces of apparatus are also located in this tower, which rises a few feet above the level of the pond.

"The Venturi meter discharges into the casing of the turbine and also into a 12-inch Union water meter. Taper blanks and rings are inserted in each line, taking the place of large valves, and are found to be very satisfactory.

"The normal head on the turbine is 30 feet and is ascertained during tests by comparing a calibrated floating tail-race gauge (see Fig. 3) with the water gauge from the turbine gate casing.

"A graduated gauge showing the turbine gate opening protrudes through a stuffing-box on the casing, and a mercury gauge to show pressures at various points on the draft tube is located nearby. On one end of the turbine shaft is a revolution counter manipulated by a positive clutch drive, and on the other end is the Alden absorption dynamometer.

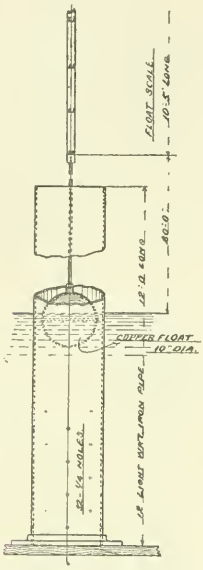


FIG. 3 TAIL WATER FLOAT.

"Water under pressure is furnished the dynamometer by a 4-inch Gould hydraulic ram, or by a small Dean triplex power pump driven by a 36-inch Pelton water wheel, both situated in the basement of the laboratory.

"The method of conducting efficiency and capacity tests of machines, using the turbine as a transmission dynamometer, is as follows:

"The machine to be tested is belted to a pulley on the shaft of the turbine. The turbine gate is opened until the desired speed is obtained. A test is then made, taking the usual readings such as speed, gate opening, head on wheel, load on dynamometer, also the necessary readings on the machine under test. Then the turbine is stopped by means of the absorption dynamometer used as a brake without closing the gate and belt is removed. By reducing the pressure and allowing the turbine to run, taking up the load on the dynamometer, so that the conditions are exactly the same as when the machine was under test, a means of knowing the exact amount of power required to drive the machine is given by simply subtracting the former load on the dynamometer from the latter. The accuracy of this method is made possible by the fact that the gate of the turbine remains in a fixed position throughout the test. It is almost impossible to set a turbine gate twice in the same position, and unless it is in the same position during the two tests the results must vary.

"When the turbine is under test or is being used as a transmission dynamometer, its speed is controlled by either varying the gate opening by hand or by supplying the necessary loads on the absorption dynamometer.

"However, there are three kinds of turbine governors at command, and these are used primarily for illustrative and experimental purposes. The Snow and Improved Lombard, built by the Holyoke Machine Co. of Worcester, and the Replogle governor, built by the Replogle Governor Works, Akron, O., make up the present installation. The unit is especially fitted for experimental work upon turbine speed regulation on account of the long penstock effect and the means of easily and quickly changing the load on the turbine from maximum to minimum, also by the effect of a fly wheel on the turbine shaft. The plant is already equipped with electricity, and arrangements have been made to install a new form of electrically controlled turbine governor.

"A four-stage centrifugal pump, built by the Buffalo Forge Co., is arranged for testing in the manner described above. The discharge from the pump can either be measured in the 50,000-pound weighing tank or by means of a standard weir in a flume situated near by. The pump discharges into a pressure tank, on which is a standard gauge, which gives the head pumped against. The supply to the pump is arranged so that a negative head from 30 feet to zero can be easily obtained by throttling. The mercury gauge connecting this line gives the

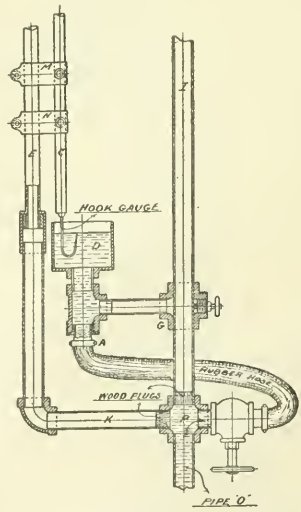


FIG. 4. APPARATUS FOR MEASURING HEAD.

actual head. There is also a pipe line connecting the main line which comes from the reservoir to the supply, which pipe gives a means for getting a positive pressure on the suction end.

"This pump is intended to furnish water under various heads to the 36-inch Pelton wheel situated just outside of the building on a level with the basement. The normal head from the pond ordinarily operates the Pelton wheel, and it not only furnishes sufficient power to drive a small Dean triplex power pump, but also gives a means of illustrating to the students a few fundamental principles in hydraulics. For this purpose the casing of the wheel is removed and a brake applied to the rim of the pulley on the shaft, so that the speed can be varied from zero to maximum, and in this way the best speed of the buckets is shown to be about half the velocity of the water issuing from the nozzle.

"The discharge from the Pelton wheel drops into a small flume, at the further end of which is a standard weir with end contractions. A small Alden absorption dynamometer is placed on the Pelton wheel shaft, and in this manner power and efficiency tests can easily be made.

"There is a set of weir flumes designed to be used in connection with calibrating the large standard weir. These flumes are 3 feet wide, 14 feet long, and 1 foot below the crest of the weir, and are without end contractions. The flumes are carefully calibrated by means of the large weighing tank, and are then placed in parallel, all discharging into the large flume; and in this way a means is given to check the large standard weir.

"A Price current meter is used for experimental purposes in determining the flow of the stream below the plant. The quantity passing a given point in the stream is known, as it has passed over the standard weir, and in this way a good check is given on the tests made by means of the current meter.

"There is also installed in the plant a turbine flow recorder, which automatically registers the amount of water going through the wheel, both for a variable gate opening and for a variable head. The recorder was designed on the basis of the tests of the turbine at the Holyoke testing flume, and the results seem to check very closely with those found after its installation in this plant, although the conditions are somewhat different. For instance, this turbine was tested in Holyoke on a vertical shaft and under the head of about 16 feet. It is now installed in a horizontal shaft, with a 12-foot draft tube, and under a head of about 30 feet, and yet the discharge as computed from the Holyoke tests does not vary at half gate more than 1 per cent., and at 0.9 and full gate about 0.3 per cent.

"There are five distinct means of measuring the water passing through the plant—the pitometer in the pipe line, the Venturi meter, the turbine flow recorder, which was based upon the Holyoke flume tests, the current meter situated in the weir flume, or in the stream below, and the standard weir."

The above description is, owing to the limitations of space, necessarily inadequate, and no just idea can be obtained from it of the extent and value of the course which the student obtains in hydraulic engineering. This course has steadily increased in popularity among the students at the Institute, and the future will undoubtedly see a still further increase in the popularity and usefulness of this remarkable feature of its engineering equipment.

LEVI L. CONANT.

"A board of trade is as essential to a city as a schoolhouse, park or library, with the advantage in favor of the board of trade, its work being given freely. It is the people's forum separated from the influence of party or creed, a nucleus around which thought and effort concentrate until irresistible. A city without a board of trade or similar organization is not a city, but a cemetery."

WORCESTER COUNTY INDIAN NAMES.

THE Indian names of places in Worcester County, and the interpretations of some of them, have been made the subject of a book by Lincoln N. Kinnicutt, recently, with the idea of preserving the names used by the tribes before they came under the subjugating influences of civilization. According to his research, the Nipmuck tribe was the one belonging to this part of the country, and the past history dates far back of 1620. The names are about the only relics we have of an ancient people who once inhabited this section of the country.

The Nipmuck tribe inhabited certainly the greater part, if not the whole, of Worcester County, and in all probability their country was of much larger extent. The exact boundaries of their dominions have never been determined, and historians differ widely on this point. Some of them show the boundaries extending as far east as Boston and Andover, on the south to the boundary lines of Rhode Island and Connecticut, on the west to Stockbridge and Bennington, and on the north to a portion of the southern part of New Hampshire. The principal seat of the Nipmucks was in the neighborhood of Worcester.

There were a number of difficulties in the way of interpretation of the Indian names, chiefly that the Indians had no written language. Their place names were spelled differently as they sounded to the individual recorder, and consequently there are a number of ways of spelling the same word. The Indians of New England were very practical in their place names, and almost every name described the locality to which it was affixed.

Imagination was rarely, if ever, used, and with few exceptions is found in the Indian names. Their name for the Pleiades was "Chippapuock," the brood hen; for the belt of Orion, "Shwishacuttowwauog," a wigwam with three fires; for a trap, "Appeh," from "Uppacheau," he waits for him.

One of interesting names found in the book is that of Quinsigamund, the original name of Worcester, and also called in the Indian tongue Quansigemog, Quansigamaug and Quansigamug. It comes from Qunnosuog-amaug, "the pickerel, or long-nose fishing place." This is particularly appropriate, as the lake, even at the present day, is noted for the pickerel fishing. Quinsigamund was the Indian name of land about Hopkinton, and also of a small river in Grafton.

The large hill in Paxton and Holden, and the pond in Paxton familiarly known as Asnebumskit, and also Hasnebumskit, had a strange derivation in the Indian tongue. Compiled of two words, Hassun, a stone, and ompsk, a standing rock, the significance of the word is "the place where a large rock rises from stony ground." One of the striking features on this hill is the prominent rock that fits the Indian description of it. In some of the old deeds the name was found to differ, and is spelled both as Hasnebumskeat and Hasnebumskeag.

Leicester, called in the Indian deeds Towtaid, has a hill called by the Indians Aspomsok, but which Mr. Kinnicutt thinks had the same meaning as Asnebumskit. This deed of the town was made in 1686, and recorded in either 1713 or 1714, and mentions the hill in the deed. The meaning of the name may be the same as Aspanock, from Sipunnak, and meaning ground nuts, Indian potatoes. These plants were formerly found in great numbers in the vicinity of the town, and many historians agree that the hill probably derived its name from this source.

People familiar with the little town of Hubbardston know the pond that is called Comet Pond, but few are aware of the stately and dignified names by which this pond was known to the Indians. Asnaconcomick, Asnecomcomit, Asnacomet, Commet, and finally Comet, are the names by which the pond has been known and was first mentioned in an Indian deed dated Dec. 22, 1686. In a history written by Peter Whitney the statement is made that at the pond there

is every appearance that once a stone wall was built, or building; in some places it is two feet and a half in height, as if laid by men, and has the appearance of a large stone wall thrown down. The name, Mr. Kinnicutt believes, came from Hassun, meaning a stone; quon komuck, long house or long enclosed place; "a long place enclosed with stones." Little Asnaconcomick is known now as Moosehorn Pond.

Wigwam was the name given by the eary settlers to the hill which rises on the western shore of Lake Quinsigamond, and Lincoln's history of Worcester interprets it as "a favorite place of residence for the Indians who ranged along the shores of the lake for fish and game." In this form it is not, however, properly the Indian name of the hill. The name Wetang in Connecticut is supposed to denote the place where Indians lived or had their wigwams, the name being derived from wetu-auke — "wigwam, place"—and also wetau wanchu, meaning mountain. Wigwam is also the name of a hill in the southwestern part of Mendon, and the same name is found used quite generally throughout New England.

Manchaug is a familiar name to the people living in Oxford, and part of the town bears the name. Gookin, in 1674, speaks of Manchaugas, a village of Christian Indians in Nipmuck country, about eight miles west of the Nipmuck River. John Eliot wrote the name "Monuhchogok." It is supposed that the name was derived originally from the Indian Menuh khi kook, meaning ye shall be strengthened.

A pond in the southwest corner of Hopkinton, and a very small part of Milford now called North Pond, originally bore the name of Maspenock. The name is also given to Mill River, which rises in the pond and flows through Mendon, Blackstone and Woonsocket, and is interpreted as meaning a "choice fishing place," from Namas, fish, or relating to fish; papanam, to choose, and ohke, land, ground or place. Another interpretation is that the Indian word "Peonogok" signified where the path is narrow, and Maspeonoguk, or Maspenock, means the great narrow way or path. This would certainly apply to the long, narrow valley of the Maspenock River.

The lake with the long name in Webster was called Chaubunakongkomuk by Eliot, and Chabanakongkomun by Gookin. Other authorities state that the lake was also known in the Indian tongue as Chaubunahungamaug, and Char-gog-ga-gog-man-chog-a-gog-. It was the name applied to the land about Dudley and Webster, and included the lake. Some authorities state that the meaning is a boundary place, or fishing place at the boundary. It is suggested, too, that the longer name retains only a suggestion of its original, and is incorporated with the name of the Indian village, Monuhchogok. Kekamoochaug was another name for the land about Dudley, and probably had the same significance. It was derived from Kukkham, he marks out, and kukkuh heg, a land mark, or boundary.

The Maanexit, Mayanexit, or Nanaexit River, rising in Leicester and flowing into the Quinebaug, was also the name of an Indian village in or near the north part of Woodstock. The meaning of the name is not definitely known, but may have been formed from Mayano, "there is a path or road," or its participle, Maanog, "where the path is." Some authorities believe it refers to the establishment of a community of Christian Indians, at this place, and if so, the name must have been given to the place by Eliot.

Milford seemed to be one of the centres of the Indian names, and, as every one knows, is famed for its granite quarries. The highest hill in the city was named Magomiscock, and was probably the name given by the Indians to the entire range of hills. The name may be rendered "ground affording a grand show," and compounds the words Magko, to afford, give or grant; misse—swollen, large, showy, grand; and ohke—earth, ground, or place, meaning, literally, a high swell of land affording a grand prospect of the surrounding country. Mr. Kinnicutt thinks, however, that another translation of the name might be "Great Rock Country," or "a place of great rocks," particularly as Milford is so well known for its granite, and the superabundance of various rocky

fragments, preventing the profitable tillage of a considerable portion of the high lands.

In an Indian deed Feb. 10, 1681, of a tract of land which included what is now Oxford, to William Stoughton and Joseph Dudley, the Blackstone River is described as the "Kuttutuck, or Nipmug River." Other names for it were the Kuttatuck, the Tittituck, and the Kittituck. One authority states that Khetetuck means great or "principal" river. Kehti—chief, principal, greatest; "tuk," a tidal or broad river.

Another deed which is of considerable local interest was that dated July 3, 1698, and found in London in 1872; it mentions a division of 30,000 acres of the original grant of Oxford. In this deed "Augutteback" Pond was the only bound mentioned, all the others being marked trees, heaps of stones or stakes. Mr. Kinnicutt believes this name to be a corruption of Ahkuhq-paug, or Aucuckpag, "Kettle Pond," from the fact that many soapstone kettle pots have been found in this vicinity. There is a ledge or deposit of soapstone still in existence, where many signs of Indian work have been discovered.

In the original deed of Leicester one of the boundaries mentioned was the Wekapekatonnuc, or Wikapokotownow, and, according to the map, was laid out in either 1714 or 1717. The meaning of the name is obscure, but it is supposed to have come from Wequacpohqutaeuc, "the point of land where they divide in two," and probably referring to some hill in the northern part of Charlton or Spencer, between the branches of some brook.

Flowing through Lancaster, into the northern branch of the Nashua River, and rising in the little town of Sterling, is a brook, the Wickapicket, and supposed to have been called for one of the chiefs of the tribe, "Wickapema." His name meant basswood, or the linden, a tree highly valued by the Indians, from which ropes and mats are made. The suggestion made in this story of Indian names is that the Lancaster name might have been derived from Wikopi-auke-et, signifying "the place where lindens are." In the early days of Lancaster the name was spelled six different ways, but one of the best authorities, Henry S. Nourse of Lancaster, gives this spelling and translation—Wequapauget, "at the end of the pond."

Tatnuck, or Tatnick, was the Indian name of the village of the same name on the outskirts of the city of Worcester. It is the name of the brook at the same place, the town and brook taking the name from the hill. There is also a hill and brook in the southwestern part of Brooklyn, Conn., bearing the same name, which probably was derived from the Indian k't-adene-k, "at the great hill," or perhaps Wut-aden-ek, meaning "at the hill."

Wabaquasset or Wabaquassuck was the name applied to a tract west of the Quinebaug River, north of a line running northwesterly from the junction of the Quinebaug and the Assawaga Rivers. A small portion of this tract was probably in Worcester County, and the tract was the country of the Wabbaquasset Indians, who were a part of the Nipmuck tribe. It was the original name of Woodstock. One authority states that the name originally belonged to some particular locality where the Indians obtained flags used for making mats. The hills of Wabaquasset were famous even in the earliest colonial days for their yield of corn, who, when our forefathers were in want of bread, soon after their landing in this country, carried a bushel and a half of corn upon his back the whole way from the south part of Worcester County to Boston for the relief of the inhabitants.

One of the brooks in Brookfield, flowing into the Quaboag River, near the outlet of Quaboag Pond, and now called Moore's Brook, was called by the Indians Nacommuck. It is probable that the brook takes its name from a point of land running into the pond, or a point of land between the river and the brook, from Naiag, a point or corner, and Komuck, an inclosed place. In the Indian deed of Brookfield, which is dated Nov. 10, 1665, it is mentioned as a brook where the meadow is. The word Komuk, or its variation Commuck, was often used for long house, or long enclosed place.

Back of the town of Marlboro there is

a hill that was long used as a planting field by the Indians, and probably many years before our knowledge of the country. The Indian name for it was Ockoocangansett, and it was deeded to Daniel Gookin by the Indians in 1677. The true interpretation of the name is not known, but it is supposed to have come from the words "ohkeehkonat," to plant, and meaning "at the planting field." One of the historical authorities, in his analysis of the names used by Eliot for the Indian praying towns, finds that several were of Eliot's naming, and gives it the meaning of "at the place numbered to come upon," that is to say, a place numbered among those regularly visited by Eliot.

Packachoog, Packachoag, or Boggachoag Hill are three out of the twelve names by which the hill in the southeastern part of Worcester was known, and which was spoken of in a history as early as 1675, as the name of one of the Indian praying villages. One authority is quoted as saying that the names were derived from a delicate spring of water that is there, while Mr. Kinnicutt thinks that it may possibly have come from Pachaug, or "Pachau-auke," meaning a turning place, and therefore signifying "the land where the river turns." The same name was used for the Blackstone River.

One of the hills in Brookfield, north of Quaboag Pond, and near Five-mile River, was called by the Indians Wullamanick, and was mentioned in the deed given by Sattoockquis to Lieut. Thomas Cooper, Nov. 10, 1665. The root of the name, with variations wallam, wollum, wullum, willim or alum, is found in a number of Indian places in both Massachusetts and Connecticut. Roger Williams interprets the name as signifying red paint country, a place where the Indians found red paint to use for their boat-painting. The Indians about Hudson Bay used the word woloman or wolomon as meaning something colored red, and used this gum on their boats. Walamanups Falls, at Indian Orchard, Mass., and Wala man-ompsk, meaning red colored upright rocks, and a ledge of bright red sandstone runs for two miles along the falls and rapids.

It is Mr. Kinnicutt's idea that these Indian names would be much better used than some of those in favor at present. Quinsigamond, Wachusett and Hassanamesit are more euphonious than Pickerel Pond, Hill Town, and Little Stone Place, and certainly the Indian names for Dead Horse Pond, Mud Pond, Skunk Creek, Hell Lake, Round Hill, Cat Brook, Snake Swamp, or Woodchuck Hollow are preferable. They add a tribute of dignity and attractiveness to these localities which the English names, as used now, certainly do not possess.

In addition to the use of the Indian titles being more euphonious, they are particularly appropriate for country places, for public institutions and for factories on the various streams which formerly bore the Indian names.

Were it not for boards of trade and similar organizations established to protect public welfare, very little protection legislation would be granted by city authorities. These organizations are the mecca to-day for all public questions throughout the country. They create public sentiment, and all of these organizations in up-to-date cities have for good reasons abandoned the idea that their one duty should be inducing itinerant industries to come to their city. No organization is in the position to take up the public questions that the commercial organizations are to-day.—*Leslie's Weekly.*

BOARD OF TRADE ANNUAL BANQUET.

THE thirty-first banquet of Worcester Board of Trade took place in Mechanics Hall on the night of Tuesday, April 17, with upward of 500 members and guests present. The disappointing feature—the absence of Gen. Charles H. Grosvenor, congressman from Ohio, and Mr. George H. Daniels of the great New York Central Railroad system—was overcome by the presence of two of Massachusetts favorite speakers. Ex-attorney-General Herbert Parker of Worcester, and Mr. Robert Luce of Somerville, member of the lower branch of the Massachusetts Legislature, filled the places of the originally-announced distinguished visitors, and disappointment was turned to a heart welcome for the so popular after-dinner speakers who so kindly consented to fill the vacancies caused by sickness.

Mechanics Hall was artistically decorated for the occasion, bouquets of beautiful flowers adorning the sixty tables, and the hall in white and green, with a bit of national color, added to the beauty of the occasion. The dinner was served in a most satisfactory manner, and it was the general verdict that the banquet of 1906 was the most successful in the history of the organization. Music was furnished by Truda's Orchestra, the dinner was by Brigham, and a full share of the evening's entertainment was the selections by the Board of Trade Glee Club, three in number, comprising the most popular of their repertoire of numbers.

Mr. Harry W. Goddard, president of the Worcester Board of Trade, sat at the centre of the head table, with ex-Attorney-General Herbert Parker at his right, and Lieutenant-Governor Eben S. Draper of Hopedale at his immediate left.

To the right from Mr. Parker in the order of their seats at the guests' table, were: Mr. Geo. F. Booth, ex-Congressman John R. Thayer, Mayor John T. Duggan, Rev. Dr. Willard Scott, Rev. Percy H. Epler, Mr. James Draper, Mr. E. F. Hamlin of Boston, executive secretary; Mr. Charles Gettemy, private secretary to Gov. Curtis Guild; Mr. C. Henry Hutchins, ex-Mayor Walter H. Blodget, Councillor W. W. Rawson, Arlington; Mr. Freeman Brown and Councillor John W. Wheeler, Orange.

To the left of the Lieutenant-Governor at the other side of the table were: Councillor W. A. Lytle, Representative Robert Luce, Mr. A. S. Hanson, Boston, of the Boston & Albany Railroad; Col. F. S. Bigney, Mr. Arthur M. Stone, Councillor Bartlett, Lynn; Mr. Henry E. Townsend, Dr. G. Stanley Hall, Mr. Charles F. Marble and Gen. R. H. Chamberlain.

After the dinner President Goddard opened the exercises by announcing selections by the Glee Club, and then gave the following brief address as introduction. It is filled with valuable and interesting statistics of Massachusetts as a manufacturing State in comparison with the country at large:

Gentlemen of the Worcester Board of Trade, and Guests.

A year has passed since we gathered around these tables before, a year of prosperity all over this land, in which our city has had its full share. I congratulate you, fellow members of the Board of Trade, on the success of your organization. I congratulate you upon the presence of the honored guests we have with us to-night. I congratulate you upon the growth and prosperity of our beloved city. I congratulate you upon the glory of the State in which we live, and even at the risk of innocently stealing some other gentleman's powder I am going to speak of that State.

I want to tell you something of Massachusetts because at times we are apt to get a little anxious about her future prospects, when some wild and woolly Westerner tells us that his part of the country is the only one that is progressing, and before very long New England will be only a remembrance.

There is no question but what lots of business is going West, and it is only natural that it should. That is where the natural resources of the country are to a great extent. A few are left to

Massachusetts, but these few perhaps are the most important of all—skill, thrift, and energy.

The West has been drawing from New England for 100 years, but as yet has failed to put her out of business, and I have faith to believe never will. Conditions will change, but Massachusetts must do the same as we all do in our mills. When we cannot afford to continue to make a certain article on account of some one else's superior advantages, we stop that and turn to something else.

Let us look at the principal industries of this country. I don't believe you half realize how important a position this little Commonwealth occupies. Massachusetts has only 8040 square miles out of 3,083,000 in the country, but she has 4% of the population, and I hope I may be pardoned in saying several times 4% of the brains.

First in importance of our country's industries is, of course, iron and steel, with a grand production in a single year of 804 million dollars. Massachusetts is naturally a little behind in this, and only takes eighth place among the states, with a production of 13½ millions. Machinery is the third leading industry, with a value of 645 millions, and Massachusetts is in third place with 56 1-3 millions.

Cotton goods is the eighth industry, with 339 millions, and Massachusetts comes up to first place with 111 millions, or 33%.

Woolen goods and worsteds are the tenth with 297 millions, and Massachusetts again takes first place with 71½ millions, or 25%.

Boots and shoes follow closely as the eleventh industry with 261 millions, and again the old Bay State takes first place with 117 millions, or 45%.

Now comes paper with a value of 127 1-3 millions, and Massachusetts takes second place with 22 millions.

Therefore, in these six very important products our own Massachusetts takes three firsts, one second, and one third, a record that no other state can touch.

If you follow the same subject further into the lesser industries, you will find her record still better. As I have said, she stands first in boots and shoes, both leather and rubber; cotton goods and woolen goods; also rubber boots and shoes, and rubber goods.

Second in paper and also in cordage and twine, jewelry, finished leather and dyeing.

Third in addition to machinery, carpets and rugs, hosiery and knit goods.

Fourth in electrical apparatus, sugar, furniture, printing and binding and confectionery.

Now in the grand total she stands out unapproached and unapproachable in the whole United States $10,239,000,000, and little Massachusetts did $1,038,000,000. Think of it. Massachusetts, that looks like a little freckle on the face of the map, did 10%; Massachusetts with only one-fourth of 1% of the territory and 4% of the population, doing 10% of the work.

These figures are not up to date, for they are 1900 figures, those for 1905 not being available as yet, but you will find that Massachusetts has held her own in the wonderful industrial progress of this country the past five years. I have confined myself to our manufacturing position, but Massachusetts is just as far ahead in other respects—in education, in culture, in her parks and playgrounds and in the advancement and comfort of her working people. We live better and enjoy more of the comforts and even luxuries of life.

Finally we have them all beaten to a standstill in wealth, which in one way is the acme of progress.

The average earnings of the entire people of the United States by a recent calculation are 40 cents per day, but in Massachusetts they are 73 cents per day, or 80% more than the average of the entire country at large. This means $250,000,000 extra for Massachusetts every year.

Out of 1237 savings banks in the entire country Massachusetts has 188, or 15% of them. Out of the total deposits in these banks of $3,261,000,000, Massachusetts has $631,000,000, or 20%. That is to say, one-fifth the entire savings of the people of the United States are in Massachusetts savings banks to the credit of Massachusetts depositors. And

so I might go on, for the subject is an inspiring one, but what I want to impress upon every one of you is that Massachusetts has set the pace for the rest of the country ever since our forefathers landed on Plymouth Rock, and she is going to continue to do it in progress of every kind that is desirable, whether aesthetic or practical.

Mayor Duggan in a brief talk drew attention to the possibilities for effective work in an organization like the Worcester Board of Trade. Reciting the names of some of those who were foremost in the manufacturing world of Worcester thirty or forty years ago, Mayor Duggan said that the people of Worcester had always entertained a fond love for industry, and that this was reflected in the fact that Worcester to-day stands as the first city in the world in the excellence and variety of its manufactures.

Lieutenant-Governor Eben S. Draper referred to 1905 as a great historic year, and spoke of the war in the East, which has practically changed the map of the world, has caused a change in the form of government in Russia, and caused an awakening in China. The alliance between Japan and England has great possibilities. In this country there have been great changes, but not territorial, and nothing to do with parties. In St. Louis a corrupt Democratic machine has been thrown out and an honest governor, a Democrat, has taken control. Jerome has been triumphant in New York, and in Philadelphia a rotten Republican machine has been opposed, and Weaver has been made Mayor.

Then Mr. Draper spoke of what he termed the three great industries of Massachusetts—boot and shoe manufacturing, cotton and woolen manufacturing. He said they were never in better condition than they are to-day. He knew something of them, for he is connected with all of them. In 1905 the boot and shoe industry was more prosperous than ever before.

The woolen industry saw a growth which was never before equalled, and while conditions were not as good in the cotton business as in the others, they are looking very much better than they were.

He summed up the condition in New England by saying the cotton manufacturer is better off to-day than he has been for twenty years.

Then the speaker talked on national conditions. The volume of business through the country last year was greater than ever before; in the iron industry 40%, and in copper 15%, in coal and coke, and this, with the enormous crops, made business for the railroads better than ever.

For the first time in the history of the country the deposits in the banks of the South exceeded $1,000,000,000. This shows the prosperity was national and not sectional.

He took up the matter of exports from the country, and said China was one of the most important countries to be considered, with the 300,000,000 of population, an area about the same as the United States without Alaska, and one mile of railroad to 200 here.

In 1887 the exportations to Canada from England and the United States were exactly alike, 42.6% from each. In 1905 those from the United States were 60.6%, and from England 24%. He closed with saying while the foreign trade is of the greatest importance, one must not forget the trade between the forty-five states of the country is of more importance.

Hon. Herbert Parker was given an enthusiastic reception. He spoke in a facetious manner for fifteen minutes. He said he had discovered that in a company composed of the compelling, controlling men of trade, there are human instincts which move us all.

He spoke of what Congressman Grosvenor might have said, but probably would not, for he would have talked no fallacies, knowing as he does, and as the men present do, that not in legislative phrases safety to the nation lies; not within the laws of the land, but in the people, the public opinion, which will govern as long as there is a law in the land.

He said he was not downed by statistics, which say industries are moving West. Wheresoever there be that which makes for progress, there is New England, which has given its impulse to the nation. Wherever great industries are,

men look to New England as son to father, as reverent, devoted, filial sons coming back to the hearthstones of their love.

It is for us who are here to keep these temples of the nation's faith and hope. Let us be worthy of it. So shall the Commonwealth stand.

He paid a tribute to Mr. Draper as typical of the best New England spirit, true manhood, energy, conscience and living.

"Let us," he said in closing, "keep our altars of the country alight, for here come sons who have wandered far to light again the torch of their faith and their hope."

Mr. Luce said in part: Circumstances have sharply called public attention of late to the attempts of various strong men to aggrandize themselves unduly, to gratify an excessive love of money and power and place, by corrupting the public morals in the matters of election and legislation.

The result has been an outburst of indignation from the Atlantic to the Pacific, with the imperative demand that these things shall be stopped. They cannot be wholly stopped. But they can be checked. And to check them is the task now pressing on the law-maker.

Two propositions to this end now before our Legislature may well get your earnest consideration. One relates to the use of money in corrupting legislation; the other to its use in corrupting elections.

We have a law aimed at the lobby, but it was framed on the mistaken theory, so general of late, that publicity is a panacea, sufficient of itself to cure all ills. Publicity is good, but penalty is better. Men will not criminate themselves. So the returns of legislative expenditure when made in compliance with our lobby law, never reveal wrong doing.

Publicity has been equally incomplete in its effect on election evils. It has not lessened the use of money in politics. The laws for it have embarrassed the honorable candidate, have been easily evaded by the dishonorable candidate. The general feeling among the politicians themselves is that these laws ought to be wiped out or else made worth while. They ought not to be wiped out, they cannot be wiped out. The public would never consent to that, and the man who tried it would write the death warrant of his political career.

Responding to the public opinion of the whole land in this matter, President Roosevelt urged legislation in his recent message. His views were reiterated by the governors of New York, New Jersey, Maryland and Ohio. They were most emphatically extended by our own Governor Guild, and Attorney-General Parker in his annual report, while commending what has already been accomplished by our publicity law, pointed out how to carry it further.

This is no hour for pessimism. Exposure of graft and venality and official disloyalty give no ground for despair.

Hon. John. R. Thayer paid the following tribute to General Grosvenor:

To-night I would like to have the old Republican war horse, Gen. Chas. Grosvenor of Ohio, here to speak to you. I feel sure that he would interest you. He would tell you stories of many kinds, and interest you in the political doings of the day. He would have made you a fine address, and I deeply regret his absence.

There was never a battering ram like General Grosvenor in the house, and there is not to-day. He was always there, and he always went back to 1895, when hard times were all over the country. There was no man more widely known than General Grosvenor. He was born right down here in Putnam, Ct., and went to Ohio and became a statesman.

Ship subsidy in my opinion is protection run mad. Protection benefits many people in the country. Ship subsidy only benefits about 100 men. I don't favor the taxation of everybody in the land for the benefit of 100 concerns. I don't believe in protecting a paltry 100 men by taxing everyone else of the 70,000,000 people of the country. I will say for General Grosvenor that this merchant marine is a thing very dear to his heart.

WORCESTER BOARD OF TRADE.

BANK BUILDING, 11 FOSTER STREET.

OPEN 8.00 A.M. TO 5 P.M. PRESIDENT'S HOURS: 1 TO 2 P.M. MONDAYS, TUESDAYS, WEDNESDAYS AND FRIDAYS.

PRESIDENT, HARRY W. GODDARD. VICE-PRESIDENT, PAUL B. MORGAN.
TREASURER, H. WARD BATES. SECRETARY, HERBERT M. SAWYER.

Directors.

H. W. GODDARD,	WM. A. LYTLE,	GEORGE F. BOOTH,	F. S. BLANCHARD,
CHARLES L. ALLEN,	WM. H. COUGHLIN,	IRVING E. COMINS,	WILLIAM FORSBERG,
EDGAR REED,	GEO. B. BUCKINGHAM,	J. RUSSEL MARBLE,	CLARENCE W. HOBBS,
JOHN A. SHERMAN,	GEO. T. DEWEY,	THOS. T. BOOTH,	WINTHROP HAMMOND,
PLINY W. WOOD,	REGINALD WASHBURN,	GEORGE F. BROOKS,	JOHN W. HIGGINS.

Clerk of the Corporation, CHAS. PERKINS ADAMS. *Auditor*, CHARLES A. CHASE.

Chairmen of Committees.

Advisory—Rufus B. Fowler. Membership—Edward B. Dolliver. Ways and Means—William H. Coughlin. Manufactures—Alfred Thomas. Meetings and Receptions—George F. Booth. Mercantile Affairs—Irving Swan Brown. Transportation and Railroads—Paul B. Morgan. Statistics and Information—Irving E. Comins. Arbitration—George F. Brooks. Legislation—Rufus B. Dodge. New Enterprises—James C. Stewart. Municipal Affairs—William A. Lytle. Taxation and Insurance—Reginald Washburn. Foreign Trade—Charles L. Allen. Publication—Rufus B. Fowler. Education—J. Russel Marble.

The Worcester Board of Trade wants to keep on file at the Secretary's office a complete list of places where floor space can be secured for manufacturing and business purposes. There are calls made every day for such information. The Secretary would appreciate it if every owner of a building in Worcester used for manufacturing or mercantile business would furnish particulars of what he has for renting purposes, and if land-owners would also file a list of available building sites. State owner, location, whether store or factory, amount of floor space, amount of power available and approximate rental. If it is land for manufacturing purposes, state owner, location, number of square feet, general dimensions, any building thereon; if so, give floor space, number stories, brick or wood, power plant with horse power, and purposes last used. Also give name of railroad near it and side-track facilities. Give price that can be used as basis of negotiation.

This information is for the use of the Secretary, and is not to be used for any purpose except to locate new or present business interests. No compensation is to be asked for any lease or rental that may be brought about by the Board of Trade.

The annual meeting of Worcester Board of Trade took place in Board of Trade Hall, 11 Foster Street, Wednesday night, April 25, having been adjourned from Tuesday, April 17, the fixed date for its holding. There was a fair sized attendance and reports from officers and committees, all showing that the Board is in a prosperous condition. The report of the Membership Committee shows 540 members; there were during the year eight deaths. The report of the treasurer shows over $4100 on hand, and the Worcester Magazine is not only self-supporting, but adds to the treasury sufficient income to use for literature to advertise Worcester. The reports of President H. W. Goddard and Secretary H. M. Sawyer were exhaustive, dealing with the work of the year and making some suggestions and answering some criticisms that are often heard made concerning a board of trade in general. Following the reports these officers were elected:

Directors for four years—F. S. Blanchard, William Forsberg, Winthrop Hammond, Clarence W. Hobbs and John W. Higgins. The retiring directors are Irving Swan Brown, Rufus B. Dodge, Paul B. Morgan, Alfred Thomas and James C. Stewart. The new list of directors represent successful business men who should prove valued workers along Board of Trade ideas of progress and development of Worcester. Mr. Blanchard is of the firm of F. S. Blanchard & Co., printers; Mr. Hammond is a retail merchant, formerly president of the Woburn Business Men's Association and a man of excellent ideas; Mr. Forsberg represents the enterprise business men of the Swedish population; Mr. Hobbs is president of the Hobbs Manufacturing Co., and Mr. Higgins is general manager of the Worcester Pressed Steel Co.

The Membership Committee is composed of Herman S. Hastings, Henry A. Macgowan, Harrison W. Bowker, Walter H. Blodget, jr., and Gustaf A. Berg. Mr. H. Ward Bates was re-elected treasurer, Mr. Charles Perkins Adams was re-elected clerk of the corporation and Mr. Charles A. Chase was re-elected auditor.

LIBRARY OF CONGRESS PERIODICAL

THE WORCESTER MAGAZINE

Vol. IX. JUNE--1906 No. 6.

Magazine and Municipal Comment.
The Private Citizen and the Public Schools.
New Electrical Engineering Laboratories at Worcester Polytechnic Institute.
Reasons for a Board of Trade.
Board of Trade Notes.

DEVOTED TO

Good Citizenship and Municipal Development

PUBLISHED MONTHLY BY THE BOARD OF TRADE
WORCESTER, MASSACHUSETTS,
U. S. A.

$1.00 A YEAR. 10 CENTS A COPY

CENTRAL SUPPLY CO.

Steam and Gas Supplies

Wholesale and Retail

Wrought Steel
Cast Iron
and Brass

PIPE

All Weights
and Sizes
1-8 to 24 in.

Automatic Sprinklers

Brass *and* Iron Fittings

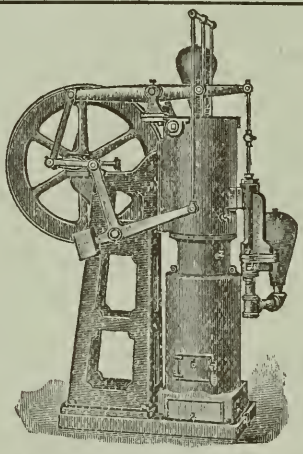
Tanks

Inspirators

Injectors

Traps

Hand *and* Power Pumps



Ericsson Hot Air Engines

Oil Filters

Wind Engines

Brass *and* Iron Valves

Towers

Pipe Tools

Railing Fittings

Pipe Covering

Hose, Etc.

The Leading Makes of

Steam and Hot Water Heaters

Radiators of all kinds and sizes

Send us your address and receive estimate (free) from responsible fitter for heating your home, store or factory.

Pipe cut to sketch. Complete Steam, Automatic Sprinkler and Heating Outfits. Pumps and Pumping Appliances of every description.

35 and 37 Waldo Street

WORCESTER, MASSACHUSETTS

HON. WILLIAM A. LYTLE
PRESIDENT WORCESTER BOARD OF TRADE

The Worcester Magazine.

VOL. IX. JUNE, 1906. NO. 6.

This magazine is published by the Worcester Board of Trade. Its reading pages are devoted solely to municipal development, good citizenship and the business welfare of Worcester. Space in these pages is not for sale.

MAGAZINE AND MUNICIPAL COMMENT.

President of Board of Trade

The president of Worcester Board of Trade for 1906 is Hon. William A. Lytle. He is one of the most prominent of Worcester's enterprising business men, being engaged in retail trade, and because of his long connection with the Board is thoroughly familiar with its workings. He has served on several of its important committees and has done considerable valuable work in the interests of members of the Board by his connection with it. He succeeds Mr. Harry W. Goddard, who is a manufacturer, and who for two years gave much of his time to the work of the Board and neglected some of his own business to be of service to Worcester, through its Board of Trade. There is considerable work along various lines that a Board of Trade can accomplish and Mr. Lytle is particularly fitted to carry out work of this nature on a broad, liberal, hustling business policy, and undoubtedly will do it. He is aggressive, thoroughly businesslike in transactions, and is not afraid to take the initiative. He was the unanimous choice of the Board of Directors, and will receive their support in the work of the year.

Mr. Lytle, the new president of the organization, was born in Binghamton, N. Y., June 21, 1853. His father died when he was a few weeks old and he came to Worcester when he was four years old. He attended the Worcester schools until 1865, when he moved to Vineland, New Jersey. Six years later he returned to Worcester, and has made his home here since.

When he returned to Worcester in 1871 he secured employment with Davis & Company, then one of Worcester's leading clothing firms. Six years later Mr. Lytle became a partner in the firm, and the name became Davis, Lytle & Company. In 1886 Mr. Lytle withdrew and established the business of W. A. Lytle & Company, which has been carried on successfully for the past twenty years. Mr. Lytle is president and treasurer of the company.

Mr. Lytle has taken an active part in the progress of the Board of Trade. He has been for a number of years a member of the Board of Directors. Last year he was chairman of the Committee on Municipal Affairs and also a member of the Committee on Meetings and Receptions. He has also been chairman of the Ways and Means Committee.

Mr. Lytle is president of the Merchant Tailors' Association. He is a prominent member of the Masonic bod-

ies in Worcester. He is also a member of Worcester Lodge, I. O. O. F.; of Quinsigamond Tribe, I. O. R. M.; Commonwealth Club, Lakeside Boat Club, Worcester Agricultural Society, and an associate member of George H. Ward Post, G. A. R.

Mr. Lytle was a member of the Board of Aldermen in 1891, 1892 and 1898. He was chairman of the finance, fire department and water committees for two years. He was a candidate for Mayor in 1900 in opposition to Philip J. O'Connell. Mr. Lytle has always been a Republican, and has taken an active part in its interests. Last year he was a member of the Council of Gov. William L. Douglas and he was re-elected, serving this year as a member of the Council of Gov. Curtis Guild, Jr.

"Private Citizen and the Public Schools"

"The Private Citizen and the Public Schools" is the title of an article in this month's Magazine which is of special interest to every person who has the interest of the public school system at heart. The article is written by Prof. George I. Alden, president of the Public School Association, and former chairman of the School Committee. He has been connected with school matters nearly all his life, and no one is in a better position or has more knowledge at his command to criticise or suggest than Prof. Alden. In his paper he goes to the root of the public system and also calls upon the private citizen to do his part to improve what is far and away the most important feature of municipal life. There is no more vital subject before the country today than the public school system, and it is the duty of every citizen to give at least some of his time to the study of this momentous question. In a brief, practical and forceful way, Prof. Alden has outlined to the private citizen what his duty should be and by agitation on the part of the Board of Trade and other kindred associations and organizations, the Worcester public school system can be made to stand at the head of the public educational institutions in this country.

Board of Trade Helps Kill Bad Bill

The Board of Trade started off its new year by dealing a short, swift blow at one of the most unreasonable bits of legislation aimed directly at Worcester. The deserved death of the legislative bill providing for the height of buildings to be erected in cities in the Commonwealth, *outside of Boston,* was brought about at the ninth hour. Worcester, the Worcester Board of Trade and the boards of trade in other cities made quick, determined and successful opposition to the bill when it reached the stage of enactment in the Senate, but had the support of Senators Taft, Buttrick, Hill, Prouty and other Worcester County senators, and the measure was throttled, and smothered without opportunity being given for amendment. Worcester has a right to grow. The general law covers the height to which buildings can be erected. This height is fifteen feet lower than the State Mutual building, and who believes that building is too high for Worcester? The new block to be erected on Main Street, and at which the bill was aimed, provides for stores on the second floor, an entirely new phase of commercial life in Worcester. This will have a tendency to check the unreasonable rise in rents. Let Worcester regulate its building laws. Because Worcester is growing, is prosperous, is no reason why Boston should attempt to stunt that growth.

Home Architects are Recognized

The Butman block, a Main Street landmark which has been the home of prominent business firms for more than half a century, is doomed to demolition to make room for a new ten-story granite structure to meet the demands for the growing business of Greater Worcester. The Slater estate has decided to erect this block, and it is a source of pride to know that a Worcester firm of architects—Frost, Briggs & Chamberlain—is to make the plans. There is no good reason why Worcester architects should not plan its buildings. The decision of a few financial men to go out of the city to have prepared plans for business blocks or residences, gives out an impres-

sion that such plans cannot be made here. This is entirely wrong, for some of the best business blocks in the country have been planned in Worcester. It is an appreciative and creditable act on the part of the builders of this latest block to consider with favor the "people at home." The Brinley block site is the home of a company which owns the finest office building in the city, and one of the most imposing structures in the country —an investment of more than a million dollars—and the Slater heirs are to "go" the insurance people "one better" and make their building ten stories.

The location of the new block is Main Street, between Elm and Pearl Streets, with a frontage of 135 feet on Main Street, and 132 feet on Elm and Pearl Streets, extending back to the Y. M. C. A. building. On the first floor will be two large stores and on the second floor will be 14 stores with a large lobby in the center, and show-windows in the stores, will open into the lobby. This is a novelty in the store line, and the entrances will be on the three sides of the building. The eight floors above the second will be used for offices.

Manufacturing Figures of Comparison

The *Congregationalist,* in a recent issue, printed as a feature of its Washington correspondent's letter a statement concerning Washington as a manufacturing district. The paragraph that has attracted the attention of manufacturing cities is: "The report of the committees of the Board of Trade call attention to the district as a manufacturing center. Exclusive of government undertakings it has a greater number of manufacturing establishments employing more persons to whom are paid higher wages than Lowell, Rochester or Worcester."

Mr. Harry W. Goddard, president of Worcester Board of Trade last year, investigated this statement and gathered statistics from the 1905 manufacturing census issued by the Census Bureau at Washington, which shows that the statement of the *Congregationalist* correspondent is entirely misleading. In fact it is wrong. Mr. Goddard prepared the figures printed in connection with this note of comment to be given at a banquet given a short time ago to Congressman Rockwood Hoar, but as the hour was late, he eliminated it from his remarks. His prepared statement is:

Lowell and Rochester can take care of themselves, but as far as Worcester is concerned, it is so far from the truth that I want to pick it to pieces.

The number of establishments is practically the same, 482 in Washington, and 470 in Worcester, but there any comparison ends, for Washington is only a tenth-rater compared to Worcester.

The capital invested in Washington industries is 20 1-5 millions, in Worcester 48¾ millions, 2½ times as much.

The value of their annual product, including custom work and repairing in Washington, is 18 1-3 millions, in Worcester 52 1-7 millions, three times as much.

Employees, including salaried officers and clerks in Washington, number 7300, in Worcester 24,800—3 1-3 times as many.

Wages and salaries paid to these employees in Washington are $4,866,000; in Worcester, $14,202,000, three times as much.

Now this correspondent says in his statement, Washington beats Worcester without reckoning in government employees, that is, those engaged in government industries, but I am willing to let him even include those and then call his bluff.

Then we will have capital invested in Washington 44¾ millions, against 48¾ millions in Worcester.

Value of product in Washington 33½ millions, in Worcester 52 1-7 millions.

Employees in Washington, 18,800, in Worcester, 24,800.

Wages paid in Washington $15,200,000; in Worcester, $14,200,000.

The reason of this extremely high wage in Washington is that while the average amount earned by an employee outside government work is $600 per year, just about the same as in Worcester, the average of a government industrial employee is $1000.

They require especially in the Bureau of Engraving and Printing the highest priced labor in the country.

Committee of Twenty Satisfied

The second annual report of the committee of twenty to the Executive Committee of the National Board of Underwriters, just issued, shows what has been done in Worcester in the way of improving the fire department and water service, from the standpoint of the insurance companies. Reports are issued on forty-six cities examined by this committee during the past two years, and in many of them improvement is shown. Worcester is the thirteenth city on the list, and the showing is made that $67,200 has been expended for fire department apparatus, and water improved conditions as a result of the recommendations of this committee made in 1904. In 1904, following the report of the committee findings, there was expended a small amount, covering one per cent. of the recommendations made, but in 1905 the expenditures covered 38 per cent. of the recommendations, which is highly satisfactory to the insurance companies, and places Worcester as one of the cities with a good rating. The report of the committee shows that Worcester has expended in water improvements $50,000 and $16,000 in improving its fire department, and $1200 in the improvement of the fire-alarm system. The detail of improvements made on the committee's recommendations are:

Surveys completed and report in preparation on a project for additional supply; distribution materially strengthened along lines of plan formulated by water department; new mains in congested value district at least 12 inches; six-inch pipe used only when supplied by larger mains at intervals, not exceeding 500 feet; electrolytic surveys made; policy of placing valve gates at street crossings in closely built-up section adopted; policy of inserting gate valves at intervals of 500 feet adopted; fire department notified of opening or closing of gate valves and records kept; gate valves inspected at least twice a year; hydrants set in accordance with recommendations for size of barrel and connections to main; gate on latter. Independent outlet valves on 4-way hydrants; dead ends eliminated where practicable; complete plans of distribution system under preparation; a few permanent men added to the fire department; maximum age limit for new appointees to fire department fixed at thirty-five years; new extra first size engine in service and second size engine in reserve; new eighty-five foot aerial truck installed at headquarters, old truck in reserve; chemical extinguishers in fire alarm operating room; only ten additional boxes installed; under-ground fire alarm circuit district extended; employees of water department attend second alarm fires; employees of public service corporations assist fire department at fires; city council considering revision of building laws; present fire escape ordinance more strictly enforced; National Electrical Code adopted as standards for all wiring.

Sees no Danger from the Rich

President C. W. Eliot of Harvard University is not one of those who sees grave dangers about the rise of a permanent class of very rich men. He has gone into the question at length in a recent magazine article and in the course of his argument says: "To transmit great estates is hard. They get divided or dispersed. The heirs are often unable to keep their inherited treasures, or, if by the help of the lawyers and other hired agents, they manage to keep them, they cease to accumulate and only spend.

This is one of the natural effects on his children of the very rich man's mode of life. With rarest exceptions the very rich men of to-day are not the sons of the very rich men of 30 years ago, but are new men."

Deserved Promotion for Mr. Firth

The promotion has been announced of Mr. Charles Firth, agent of the Boston & Albany Division of the New York Central Railroad at Worcester, to be the superintendent of the Boston & Albany Division which takes in the territory between Springfield and Albany and known as the Western Division. Mr. Firth is to be succeeded by Mr. Samuel S. Van Etten, until June 1 city passenger agent of the Boston & Albany

road, as agent, and Mr. Richard Van Ummerson, for a long time connected with the Boston office of the road, is to be division freight agent, with offices in Worcester, his territory including the main line of the road and its branches from Wellesley to North Wilbraham, making a new department in the service of the road. Mr. Van Etten was formerly connected with the freight department of the Erie Railroad, but came to Worcester from the New York offices of the New York Central. His place in the up-town ticket office will be taken by Mr. James Sweeney of Boston.

Mr. Firth, a native of Leicester, has been connected with the Boston & Albany Railroad more than 26 years. He started with the car service department and was afterward promoted to be agent at Rochdale. He remained there a short time and was transferred to Westfield as agent, where he remained ten years, being transferred to the Washington Street office of the Boston & Albany in Boston. Eight years ago he was transferred to Worcester as agent of the road, succeeding Mr. George B. Ager, now connected with the Boston end of the line.

In the few years Mr. Firth has been here, he has won the confidence and esteem of the business interests to an unusual degree. Without sacrificing in any way the interests of the railroad, he has bent every energy to give the shippers of Worcester every facility for quick and direct shipments, both outward and inward, and has done much to expedite the local handling of freight.

His genial and courteous treatment of patrons has made them feel that the shipper and the railroad had many interests in common. This policy has brought about a feeling of loyalty among shippers that has brought much business to the road and made it possible to hold it.

Mr. Firth has been an enthusiastic member of the Board of Trade and has been of great assistance to it in many instances. As a citizen he has taken a lively interest in the welfare of the city and its institutions and his influence has always been for progress and a better and greater Worcester.

His departure to his new field of labor will be a distinct loss to the Board of Trade and to the business interests of the city, but he will have the best wishes and sincere respect of all who have known him.

Assignment Bill Trimmed of its Snares

The assignment of wages bill has passed the Legislature after being stubbornly opposed by Boston money-lenders and installment house people. The bill came out of committee with a unanimously favorable report, and there was little contest in the House, but in the Senate opposition developed, and one vote saved it from defeat. Worcester manufacturers were in favor of it, and Worcester Board of Trade and Worcester Merchants' Association also went on record in its favor.

It is intended to correct some of the worst evils of a system that has oppressed a great many people and those as a rule whose industry deserves better fate. Perhaps no other cause has been more productive of distress and not infrequently despair than this. The installment business and the loan companies make tempting appeals to the unwary. It is easy for them to present a credit system in terms of so much apparent kindliness that the victims rise to the bait by hundreds, when if left to their own judgment they would not think of applying to those who have perhaps not unjustly been characterized as "money sharks."

With this bill a law assignments must be signed by the assignor in person; must cover explicitly stated liabilities; a copy must be given the assignor and another recorded. This will deter dealers from taking signatures to blank assignments, and prevent them from adding changes at their discretion to bills covered by assignment. The practice as it has been followed has not only made protracted trouble for the assignors, but for those who employ them. It injures their service and detracts from their value to have the money-lenders or their agents forever at their heels. Yet these transactions are usually entered into in good faith by the borrowers. They want ready cash for a particular purpose, or they have had through sickness or otherwise an unusual drain

upon their resources. There is offered temporary relief, while the snares that are involved in what seems to them as welcome service are carefully concealed until payments come due or settlements are to be made. Then they discover a formidable accretion to their burden which they are in most cases unable to meet, and this in turn gathers more, like a wet snowball rolling down hill.

Recommends Industrial Commission

The legislative committee on education has reported a bill for the appointment of an industrial commission based on the report of the commission on industrial and technical education to provide for the establishment of trade schools and to provide for the founding of a free college or industrial university.

The bill provides for the appointment by the Governor of a commission of five, to be known as the commission on industrial education, to serve for three years, and to receive such compensation as the Governor and Council shall approve. Upon the organization of the commission it shall appoint a secretary to be its executive officer, who shall receive a salary of $2500; and the commission may employ supervisors, experts in industrial and technical education, and such clerical and other service as may be found necessary.

The bill also provides that the commission shall be charged with the duty of extending the investigation of methods of industrial training and of local needs, and it shall advise and aid in the introduction of industrial education in the independent schools; and it shall provide for lectures on the importance of industrial education and kindred subjects, and visit and report upon all special schools in which such education is carried on.

It may initiate and superintend the establishment and maintenance of industrial schools for boys and girls in various centers of the State, with the co-operation and consent of the municipality involved or the municipalities constituent of any district to be formed by the union of towns and cities.

Other provisions of the bill are:

Cities and towns may provide independent industrial schools for instruction in agriculture, domestic and mechanic arts, but attendance by children under 14 cannot take the place of public school attendance required by law. Evening schools may be provided in order that working people may profit.

Two or more cities or towns may unite to establish such schools with approval of the commission.

Taking Long Chances with Water Supply

The action of the Legislature in supporting a measure providing for more liberal use of boats on reservoirs from which water for drinking purposes is drawn is an unwise piece of legislation. It had its origin with Representative Hugh H. O'Rourke of Worcester, who undoubtedly was well meaning in his motive. But it opens an opportunity for frightful pollution of these ponds from which the people take their drinking water. The bill in particular is confined to the ponds of the Metropolitan Water system and need not give Worcester any particular alarm, but it is to many minds a dangerous precedent to establish. It has been a rule of the Metropolitan Water Board to grant permits for daily use of boats to persons who appear to be in perfectly healthy condition, but the bill which is before the Legislature is a very different matter, and physicians make no hesitation in saying that it is an exceedingly dangerous matter. If men are to be permitted after registering their boats to use them on the water supply at times, regardless of their condition of health, it is declared that the danger of typhoid and other germ diseases will be such as none but an utterly reckless community will care to take.

Governor Guild immediately vetoed the bill when it reached his desk because he believed it an unwise and a dangerous piece of legislation. His reasons are worth consideration. He says:

"The ponds affected are Whitehall Pond, the Washacum Lakes and Lake Cochituate, all of them portions of the Metropolitan Water supply. That the water in all such ponds and reservoirs should be free from pollution is a matter of vital moment to the lives of 950,000 people."

THE PRIVATE CITIZEN AND THE PUBLIC SCHOOLS

A PRIVATE citizen may for present purposes be described as a person who has no official duties in relation to the public schools. The term public schools will be used to include the entire public school system and its relations to the citizen and the municipality. Without official responsibility and authority, why should the private citizen attempt any action looking toward the promotion of the best standards of public school education? And if a reason shall be found for action, what should be done? Starting with these questions in mind, I group my brief remarks under two headings: "Why" and "What?"

Why should the private citizen attempt to influence the character and standards of the public schools? The public school system is like every other similar institution, in a process of growth and development. The forces by which this growth is sustained are from two sources: one source within the system itself, the other without. It is a matter of common observation, a fact in the history of educational progress, that the forces within the system are usually not adequate, or are not so employed as to maintain a reasonable and necessary advance in the development of the public school system. In short, there is not sufficient progress due to the self-contained forces.

There may be in any system individuals who are progressive enough. A school superintendent, some members of the School Committee, a group of teachers, may be familiar with the conditions of satisfactory progress, and eager to establish these conditions; and still the system as a whole may make very slow progress, unless these progressive and informed public officials are encouraged and supported by that subtle but potent force called public sentiment.

Among many examples that might be mentioned in all departments of the public service illustrating the inability of a system, unaided by the influence of a strong public sentiment, to free itself from bad methods, I present one from our Worcester school system. The process of getting a new schoolhouse is about as follows: The Superintendent of Schools informs the committee of the need, and recommends the necessary schoolhouse accommodations. This recommendation is referred to the Committee on Schoolhouses. This committee investigates and reports back to the School Committee recommending that the Honorable City Council be requested to purchase a lot and erect say a ten-room building, at a certain estimated expense. The School Committee adopts the recommendation of the Schoolhouse Committee, and the matter goes to the City Council, which body, by the joint action of the Board of Aldermen and the Common Council, refers the request of the School Committee to the Committee on Education of the City Council. This committee investigates and reports to the City Council favorably. Their report then goes to the Committee on Public Buildings. This committee considers, investigates and reports to the City Council, asking that an order be passed requesting the Superintendent of Public Buildings, under the directions of the Mayor, to have plans prepared and expense estimated. This order having been passed by the City Council, the Superintendent of Public Buildings, under the direction of the Mayor, proceeds to employ an architect, and have the plans prepared. These plans *may* during their preparation, and at their completion *will* be submitted to the Committee on Schoolhouses of the School Committee, and in anticipation of the completion of the plans by the Superintendent of Public Buildings, the School Committee will have passed an order authorizing the

Committee on Schoolhouses to approve the plans. After they are perfected by the Superintendent of Public Buildings, and approved by the Schoolhouse Committee, the Superintendent of Public Buildings will submit to the City Council the plans, with estimates of the cost of carrying the plans into effect. The City Council will refer this report of the Superintendent of Public Buildings to the Committee on Finance of the City Council. This committee will consider the financial questions involved, and report to the City Council, recommending that orders be passed—

First, authorizing the construction of the schoolhouse by the Superintendent of Public Buildings, under the direction of the Mayor, and

Second, authorizing the negotiation of a loan to cover the purchase of land and the erection of the schoolhouse thereon. If these are passed, and are approved by the Mayor, the work of building the schoolhouse can go forward. If any or all of the eight different bodies, committees or officials shall, at some or all of the twenty-four stages more or less, through which the project must pass, hold it up by failing to cast the necessary votes or grant the required approvals, it is easy to see that a very long time may elapse before the schoolhouse can be built.

It is not probable that any man in the city government or on the School Committee, speaking as a private citizen, would say that this is a good way to get an important building designed and constructed. Perhaps, however, the best measure of the efficiency of this method above outlined is to examine our school buildings in comparison with those of other cities, both larger and smaller than Worcester. Such an examination and comparison will, I think, reveal the fact that Worcester has not a single school building that in its appointments as a modern schoolhouse is up to date, while many of the schoolhouses are poorly and cheaply constructed; are lacking in completeness of design and plan, and show clearly the results which the present method of dealing with school building naturally suggests. Many of our schoolhouses have some excellent features, but we still have no gymnasium in any high school, and no assembly room properly accessible in any grammar school. In fact, we have only one grammar school with an assembly room worthy the name, and that room is located in the attic.

There is one further condition existing in our Worcester system that is unfavorable for the attainment of higher standards for our school buildings, and that is the fact that the cost of schoolhouses and the question of running expenses are not really considered as one question. If schoolhouses were, in size and location, considered with reference to the expense of maintenance as well as first cost, it might appear that our new schoolhouses could be in every respect equal to the best, without any real additional financial burden to the city.

The schoolhouse question, including the care of schoolhouses and the employment of janitors, has, during recent years, grown worse rather than better, notwithstanding the efforts that have been made by various public officials to secure better conditions.

There are very many reasons why the private citizen should assume duties toward the public schools, and indeed toward all public institutions, beyond the casting of a ballot for public officers. But I will only stop to give the single, practical and, to my mind, rather comprehensive and conclusive reason that without private initiative and effort reasonable and satisfactory progress is impossible. Wherever a high degree of efficiency in the administration of public affairs in any department has been attained, the work of private citizens, organized for the purpose of arousing the public intellect and conscience, has been prominent. On the contrary, wherever for a considerable time private citizens have been indifferent toward important public matters, there has, as a rule, been degeneracy in public service. "The best is none too good for Worcester schools." Every citizen, public or private, will applaud this sentiment.

Why should the private citizen enlist in an effort to secure the best standard for the public schools? I answer: That is the only known way to get the best.

But I must hasten to my second topic. What shall the citizen do? A boy, it is said, was asked his idea of a true friend. He replied: "A true friend is one who knows you through and through, and—loves you, all the same." Whether this is the saying of a boy or the words of a philosopher put into the mouth of a boy, it has in it a fine flavor of wisdom.

That little phrase "all the same" reveals the consciousness of imperfection, but the whole sentence "loves you all the same" reveals that noble sense of personal worth, dignity, merit and possibility that rises so far above the consciousness of imperfections that to be known through and through is only the condition of being more truly loved.

Let the citizen who has seen the reason for doing something for the public schools first become a friend of the public school, a true friend, according to the boy's definition just referred to; in other words, an intelligent friend. If one may not become informed by personal observation or effort regarding all the features of our schools, an intelligent interest in at least one phase of the school system may easily be cultivated.

There are two groups of subjects relating to the schools which it may be well to distinguish clearly. One of these groups includes all those matters which come directly under the jurisdiction of the city and school officials; those things which by virtue of their office these officials must directly do; those things which the state law and the city charter require of them. The elements of this group are obvious. They demand the attention of the private citizen, and will be referred to later.

The other group is made up of those auxiliaries to the public school system which may become incorporated into it. Within the memory of some of us these subjects included drawing, manual training and kindergarten. But these now belong to the first group; they are a part of the school system. There are belonging to the second group, summer schools, school gardens, the wider use of the schoolhouses for the benefit of the school neighborhood, the more systematic teaching of ethics in the schools, medical inspection of school children, the relation of the public schools to the industrial question, the securing of better laws regulating school conditions, and other kindred subjects.

The consideration of this second group of subjects is made necessary by the magnitude of the problem of the *city child*. From the standpoint of the citizen *everything* which enters into the life and character of the children swarming in the thickly populated parts of our cities must be considered, for the children of to-day will be the citizens of the next generation, the rulers of the municipality we are developing. It may be that few or many of these subjects belonging in this second group will ever become a part of the regular school life, but there has been such an awakening of public attention to the whole problem of the *city child*, that public-spirited citizens all over our broad land will continue to give their interest, time and money to make these subjects a benefit to the public schools, and when tested as to their efficiency a part of the schools.

Private citizens who have become the intelligent friends, the true friends of the public schools, will naturally multiply their efficiency by organization. Most of the cities in our country have public education associations, and these associations are affiliated with one another and with voluntary societies for the promotion of all that is best in the social, educational and political life of the American people. These societies often work quietly and with but little apparent success, but their influence in the aggregate is mighty. Without the effort and services of the voluntary bodies of citizens standing behind the honest public officials, greed and graft and underground politics would have little to fear and be seldom exposed and checked.

The opportunity of the citizen to benefit the public schools is therefore clear. Resolve to become the intelligent friend of the schools, and unite your efforts with as many other like minded citizens as possible. An association truly friendly to the schools may depend upon good will and intelligence to guide its activities. It may meet many problems which

are exceedingly delicate and complicated. It is, therefore, necessary that such an association should establish itself upon a broad basis of good will toward all; that its methods should be open; its motives fully declared and understood. These problems must be approached in the broadest spirit. Every question of a personal nature should be excluded. There should be no attempt to influence public opinion by any of the artifice of the politician or the vehement and sensational utterances of the professional reformer. Get facts, indisputable facts, and take a fair look at them. Or attempt some line of helpful activity and look impartially at the results.

It may not be out of place here to mention some of the problems belonging to the first group already referred to, which may be of interest to the private citizen, or to suggest some related questions.

First—The financial question. This is frequently discussed with too little reference to the existing facts. One of these facts is that the city of Worcester is unable to raise by taxation, or from any available source, sufficient money for current expenses to enable it to support its schools and other departments of the city government liberally. The schools get quite a large percentage of the money it is possible to raise, but it is absolutely necessary for the Mayor and the City Council to keep down expenses below what would be a reasonable outlay, if sufficient money were at hand.

The other side of the matter which appeals to the public-spirited citizen is this: Worcester is a prosperous and a wealthy city. Why should it not have the best school buildings, pay its teachers salaries liberal enough to prevent the best teachers from leaving to get larger salaries elsewhere, and conduct all the departments of the city in an efficient but liberal way? Is there something wrong somewhere? Is there some fact not included in the statement of either side of the question? If so, it would be well to find it. Perhaps some clue to the lacking fact, if such there be, would appear if someone could tell us what proportion of the taxable property in Worcester is on the books of the city assessors.

Would it not be wiser in the end for the citizens and the business corporations to pay less attention to avoiding taxes and more to controlling the expenditure of the money raised?

The matter of schoolhouses I have already referred to. The question I would suggest in that connection is this: Can we hope to get much improvement with such divided responsibility? Where does the public think the undivided responsibility belongs; or better, where would the intelligent study of the question by the citizens of Worcester be likely to place that responsibility?

Regarding the Superintendent of Schools I raise one question for your consideration. It is this: The Superintendent has a vast array of facts regarding all school matters and a good many ideas and plans for the betterment of the schools. Particularly in this matter of schoolhouses he has, as I happen to know, a deep interest and full information. Can the enlightened public sentiment of Worcester do something to give his information, his influence, his plans, a better chance for fruition, to the great benefit of the schools?

What about the supervision, particularly, in the primary grades? On this question the Superintendent of Schools has ideas which should receive the support of public sentiment. The degree of excellence maintained by the public schools is due in a very large measure to the work and influence of the teachers, many of whom keep themselves fully informed on all phases of modern educational thought and practice. To improve the efficiency of the teaching force is the aim of every superintendent. Assuming that the prevailing methods of instruction are correct, the only way to reach the pupils and improve the schools is through the teachers. Any citizen who has never visited one of our schools and seen the work and felt the atmosphere and influence of a school-room in charge of an able and devoted teacher has missed a great inspiration. To one who has become familiar with the work of our best and most progressive teachers, the question arises, how may the body of teachers as a whole be permeated with the spirit of those who, by

natural endowment and devotion to the profession, are recognized leaders?

Two elements tending to determine the quality of the teaching force are: training, including education and experience; selection, involving a knowledge and a judgment of the personality of the teacher. Two conditions favorable to the best work of a good teacher are: suitable environment, including properly constructed and well-ventilated schoolrooms, suitable books, apparatus, models, and the like; and a consciousness of sympathetic support by officials, parents, and the public generally. You may properly ask where the teachers are educated, and what has been their experience; and may study the methods of the normal schools and the curriculæ of preparatory schools.

You may follow the appointments of the School Committee and decide for yourselves regarding their methods of selection, of the adequacy of their support in the way of salaries, or otherwise. This is the citizen's privilege. But do you not see that aside from these questions there is a field of peculiar opportunity in the direction of recognition, encouragement and sympathy?

My final word is to the members of the Public Education Association of Worcester. About a year ago eighty of the influential citizens of Worcester requested the formation of a Public Education Association. Others have since been added to our membership.

I have mentioned some reasons why such an association should exist. I have suggested pleasant and profitable lines of investigation. I have pointed out your privileges as private citizens. I trust you now see the matter, as it has come to appeal to me, in the light of a *duty* as well as a privilege.

If you believe in our motto, "The best is none too good for the Worcester schools," you should live up to the full measure of your privilege and duty as private citizens.

If you do not, and the schools fall below the standards you have set for them, do not severely criticise a mayor, or a city council, or a school committee, or a corps of teachers, but rather do your part to influence and help them.

GEO. I. ALDEN.

Every industrious citizen is a producer. He may produce a day's work which he sells in the labor market. He may be a consumer of labor and a producer of farm or of factory products. He may produce exchanges of merchandise or exchanges of credits, or he may produce transportation. Any one who by his efforts adds to the sum total of our production, or in any way increases the aggregate of our commerce, is a producer. Then we are all, whether industrious or not, consumers. We consume food and clothes and cover. Therefore we have dual interests. We would like to buy that which we consume as cheaply as possible, and sell what we produce as high as possible. The man who produces a day's work is interested in high-priced labor, while he who buys labor and produces farm or factory products seeks to buy this labor as cheap as possible and to sell his products as high as possible.

HON. LESLIE A. SHAW.

NEW ELECTRICAL ENGINEERING LABORATORIES AT W. P. I.

THE trustees of the Worcester Polytechnic Institute have recently taken a most important step in deciding upon the immediate erection of a new building, to be used exclusively for electrical engineering purposes. The rapid growth of the Institute has forced upon the board the question of additional accommodations of one kind or another, and the expansion of the electrical engineering department has finally resulted in the determination to build immediately a large building, which shall be used as an electrical engineering laboratory. Since its establishment ten or twelve years ago, the electrical department has had quarters in the Salisbury Laboratories, but with the growth of the Institute in numbers, and the consequent increase in the facilities required, the present quarters have proved to be entirely inadequate for the work which the department considers it necessary to do.

The same pressure has also been felt by all the other departments of the Institute; but with the opening of the new electrical building the quarters now occupied by the electrical department will be vacated, and thus a much-needed relief will be given to the other departments, particularly to those of chemistry and physics.

The new building, which is to cost approximately $125,000, will be erected immediately, and it is hoped that a portion at least of the room which will thus be made available can be utilized early next year.

The interior arrangement of the new laboratories has been planned by the electrical engineering department; and the architectural work has been performed by the celebrated firm of Peabody & Stearns, Boston. Professor A. W. French, the head of the civil engineering department of the Institute, has throughout acted as consulting engineer, and will serve as superintendent of construction during the erection of the building.

The perspective elevation of the building, which is given in the accompanying illustration, shows the general appearance of the building, which will be constructed of selected red brick, with darker red brick and brownstone trimmings, and a roof of light green slate.

The building will be located seventy-five feet from Salisbury Street, near the northerly end of the Institute grounds, and will face directly upon Institute Park. The prominent location selected was an important factor in the minds of the trustees in determining upon a building which should present from an architectural point of view as attractive an appearance as possible.

On the lower or basement floor plan there are shown in the easterly wing three recitation rooms and two offices. These rooms are so placed as to be readily available either for recitation or lecture work before small sections, or for use as laboratories, as the growth and future demands of the department may require.

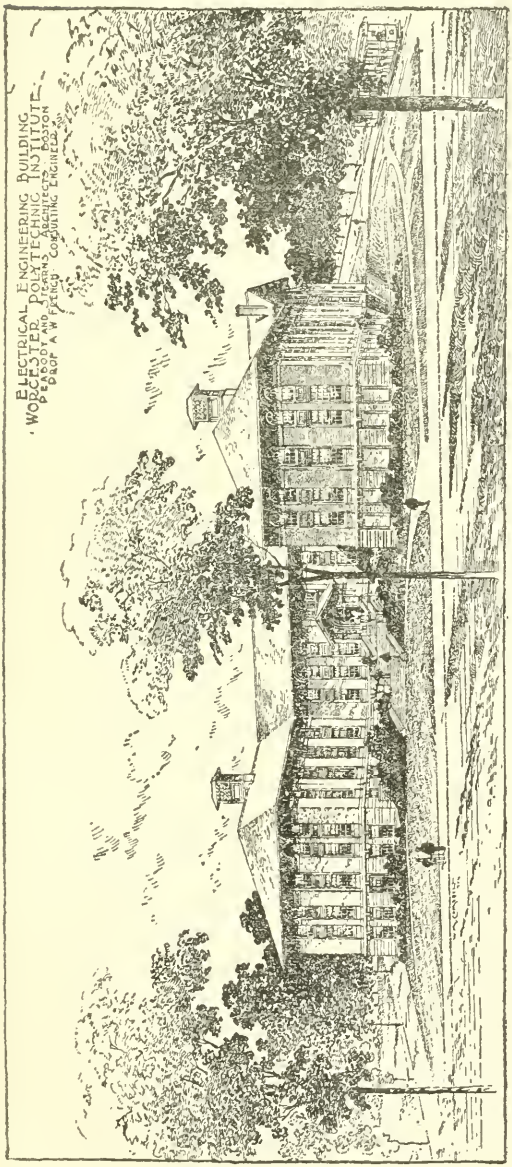
It is proposed to use one of these rooms as a telephone laboratory at an early date, and a second room may be devoted to magnetic testing apparatus.

Under the east end of the general laboratory is space for a storage battery room, and storage for heavier apparatus which may be deposited on this floor by the electric crane traveling over the general laboratory above.

An entrance and vestibule at the east end of the building gives ready access to this part of the building. Ample accommodations for toilet, locker-rooms and heating equipment are shown at the centre of the building, and under the main entrance vestibule and stairway.

In the westerly wing, at the right and under the lecture hall, is located the standards laboratory, where standard reference instruments and apparatus will be found, and where the more exact work of calibration and standardization will be conducted.

At the extreme westerly end, and under the lower portion of the lecture hall, will be located a large storage room, where heavy pieces may be lowered by the electric crane. A portion of this storage space may be used for a photometric laboratory.



NEW ELECTRICAL ENGINEERING BUILDING.

Under the western vestibule is located a fire-proof vault for the storage of records, lecture notes and manuscript, experimental data and the most valuable and delicate instruments of the department. The pit for the two railway tracks entering the general laboratory above appears in the basement plan. Referring to the first floor plan it will be seen that there are three features of primary importance:—

A. The large general laboratory, having a length of 200 feet and width of 55 feet, containing with the three galleries shown in the transverse section, a floor area of 19,400 square feet and volume of about 400,000 cubic feet (nearly 1,000,000 cubic feet for the entire building), constitutes what is undoubtedly the largest electrical engineering laboratory in the world.

This laboratory is served by a 10-ton electric traveling crane covering the entire central portion of the laboratory between the galleries.

On this main floor space under the crane will be located all the heavier pieces of equipment. Reference to this transverse section through the center of the building gives an idea of the location of galleries and traveling crane.

The galleries are designed to accommodate the lighter and accessory laboratory equipment, such as the switch signal, air brake and controller apparatus for the electric railway work, the arc lighting apparatus transformer and all other equipments not having heavy rotating or reciprocating parts.

The galleries are served by two-ton trolley hoists covering their entire length.

The large volume of the room insures ventilation, and ample lighting is secured by the immense windows at each end of the laboratory, one of which is seen at the end of the building in the perspective and large windows the entire length of one side.

Opposite to the main entrance to the general laboratory will be found the work-shop and instrument room under the south gallery and so located as to be reached conveniently from all portions of the laboratory.

The workshop will be equipped with motor and machine tools necessary for ordinary maintenance and repair of equipment and the building of such special equipment for the laboratories as can be undertaken advantageously.

The instrument room will contain the general supply of portable instruments for common use in the laboratories. On the main floor are indicated a few of the larger features of the equipment:

Number 1 is the hatchway permitting the crane to lower apparatus to the storage room below.

Number 2 is an 18-kilowatt 110-volt direct current compound dynamo directly connected to a 30-horse-power induction motor.

Number 3 is a 30-kilowatt direct current compound dynamo directly connected to a 50-horse-power induction motor.

Number 4 is a single phase 220-volt, 60-cycle alternator directly connected to a 30-horse-power induction motor.

Number 5 is a 60-kilowatt 500-volt direct connected compound dynamo directly connected to a 100-horse-power induction motor.

Number 6 consists of two 60-kilowatt single, two or three phase, 60-cycle alternators directly connected.

Number 7 is a 300-horse-power motor driven 200-kilowatt double current generator, delivering 25-cycle alternating current, either single or two phase, from one end and 500-volt direct current from the other end.

Number 8 is the foundation for the traction dynamometer at the end of the railway tests track.

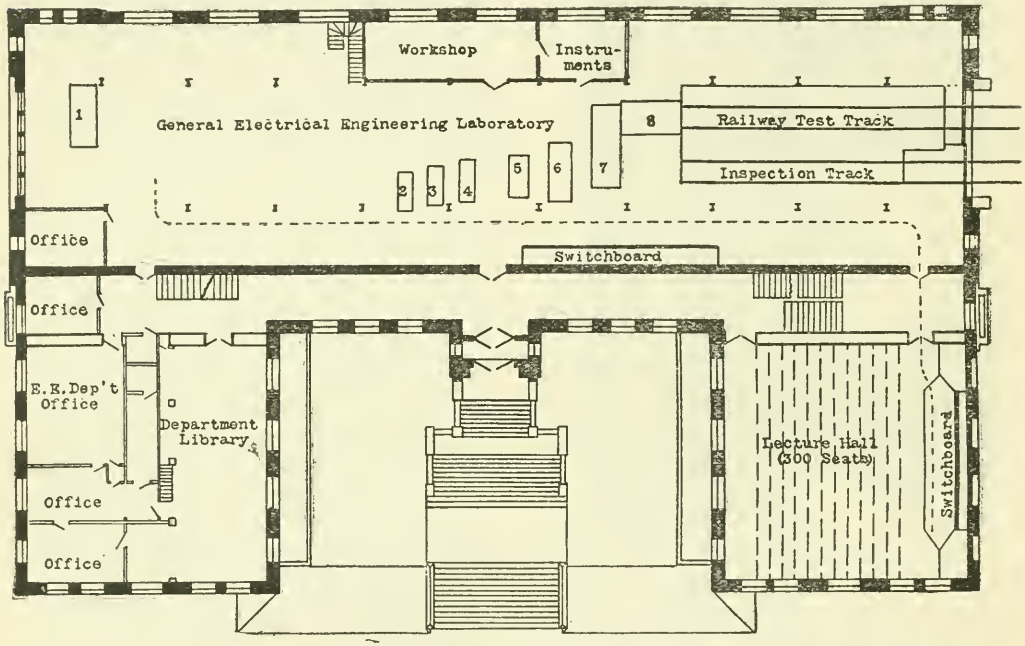
This test track will be very completely equipped for the study of car, motor brake and controller operation and will be fully described later.

On this test track may be place any foreign car up to 60 feet in length, or the Worcester Polytechnic test car may be used upon this track for all purposes of instruction in this class of electric railway equipment and operation.

The Institute test car will be fully equipped for all classes of track and run tests, and may be run upon any lines. Many of the features of this equipment will be of such interest as to form the subject of a later article.

The above generators and motors are all controlled from the switchboard at the right of the main entrance to the laboratory. This board will be of black slate seven feet high and forty feet in length.

On the board will be found panels for



ELECTRICAL ENGINEERING BUILDING
—for—
WORCESTER POLYTECHNIC INSTITUTE

First Floor Plan

each of the above motor-driven generators and the experimental and the general supply and distribution circuits for the building.

The large collection of smaller pieces of equipment will be located at the eastern end of the general laboratory and in the galleries.

The supply of current is received from the power laboratory of the Institute, where about 300-kilowatt in two phase 60-cycle current will be available upon completion of developements which are now taking place and which will be finished prior to the completion of the electrical engineering building.

A detailed description of the power laboratory development must be given elsewhere. The wall separating the general laboratory from the main corridor and the two wings of the building is a fire wall throughout, and all openings through it are protected by automatic metal fire doors.

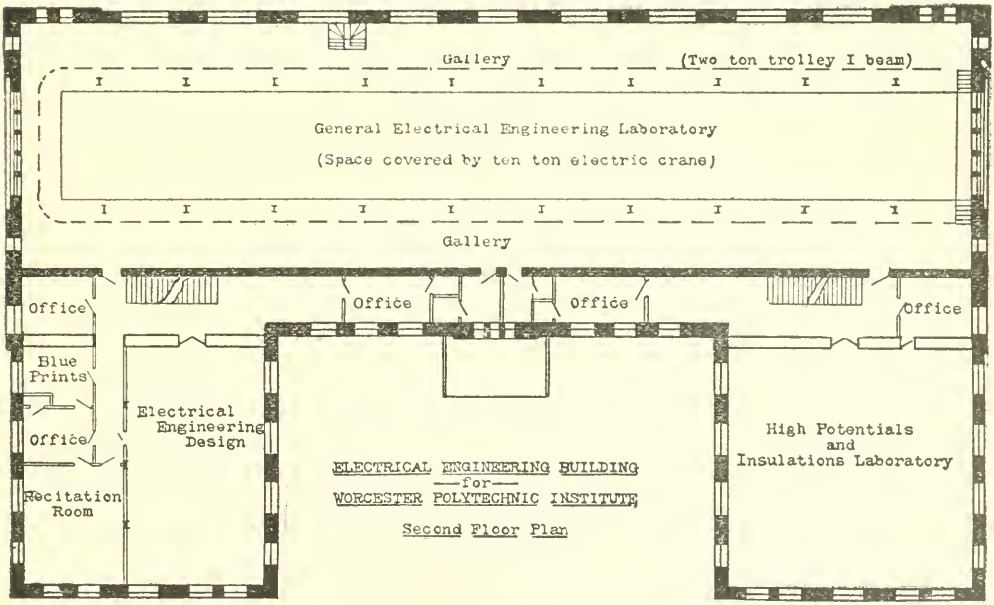
B. In the west wing of the building is located the lecture hall, which is capable of comfortably seating 300 persons. There is a difference in level of eight feet from front to back of the room, so that a good view of the demonstration table is obtainable from every seat.

Because of the arrangement of the hallway and outside entrance and vestibule at the west end of the building, the lecture hall has two entrances, both of which are at the level of the lecture hall floor, although one is at the back and the other at the front of the room.

Back of the demonstration table is a switchboard of controlling circuits reaching any equipment of the department, and the power units of the power laboratory. An overhead trolley hoist will take equipment from the crane in the general laboratory to the demonstration table. Facilities for darkening the room and for the projection of lantern slides will be provided.

C. In the east wing is located the department library and reading-room, which will be attractively and conveniently fitted for its purpose. In shelving extending the entire length of the side next to the offices and upon the other wall spaces of the room, will be shelf room for 3000 volumes.

Reading and study tables will occupy the center of the room, and periodical cases the space between the windows in the west wing of the room. The room is conveniently located for use in connection with the recitation and electrical engineering design rooms immediately above, the general laboratory opposite



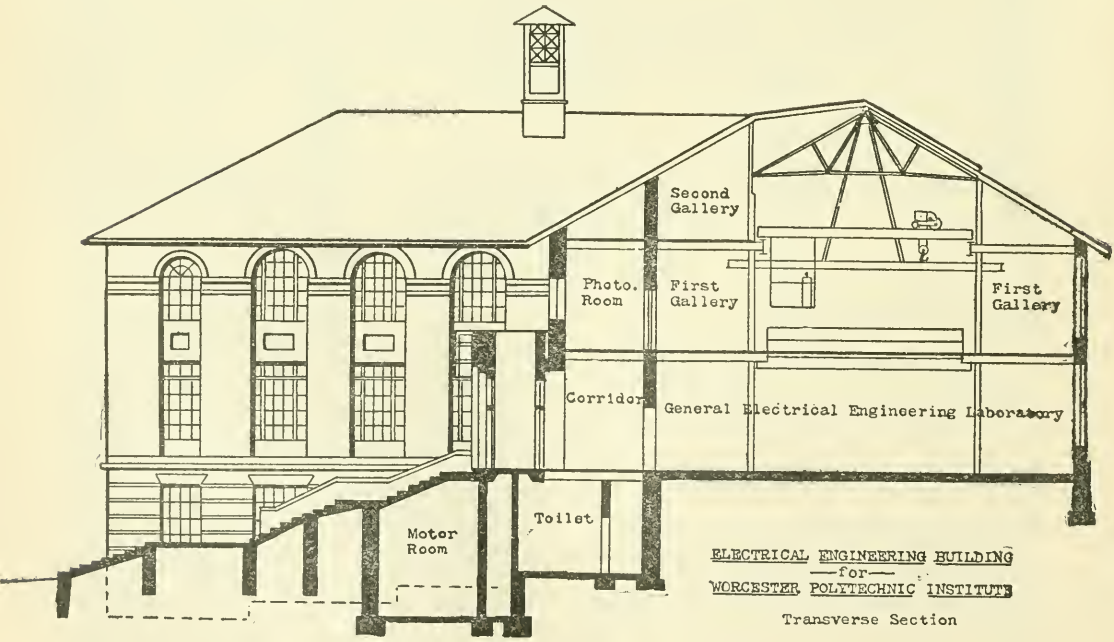
or the several laboratories in other parts of the building.

Most of the department offices are located upon the first floor and along the east end of the building. Upon the second or upper floor of the building, actually the third floor of the two wings, is located, in the west wing, the large high potential and insulation laboratory, where are located the high potential transformers, permitting the use of voltages of any desired frequency and potential up to 750,000 volts, for the study of the various problems of long-distance, high-potential power transmission, and the dielectric and electristatic phenomena of insulating and other material.

A more complete description of this laboratory will appear later, as it is proposed to develop this work on a most comprehensive scale, the Institute being a pioneer among the colleges in the study of very high potential phenomena, as well as a pioneer in the establishment of a chair of electric railway engineering, and in the provision of extensive facilities for both of these lines of work.

In the east wing is located the electrical engineering design room, where instruction will be given in the actual design of electrical apparatus and systems. In this work the Institute stands among the first few engineering colleges of the country to establish a distinct course under men experienced in the actual commercial design of electrical engineering equipment.

Upon the completion of the building and installation of its equipment, the Institute will possess the largest and most complete electrical engineering laboratories to be found in any college in the world.



ELECTRICAL ENGINEERING BUILDING
—for—
WORCESTER POLYTECHNIC INSTITUTE
Transverse Section

REASONS FOR A BOARD OF TRADE.

At the annual meeting of Worcester Board of Trade the secretary's report included strong reasons for the existence in every city of a Board of Trade or some similar organization. This was accompanied by extracts from letters from secretaries of boards of trade and commercial organizations in various sections of the country. The report and extracts are published below:

WORCESTER is rapidly becoming recognized as among the very safest cities in the country for capital and business. Our population of skilled mechanics is of the largest and the best. Labor troubles are practically unknown and from communications received and visits made by contemplating locaters the outlook, to that extent, is hopeful and encouraging.

In the last annual report the suggestion was made that the holding of an industrial exhibition in Worcester would do much in advertising the city and its products, and the promotion of its manufacturing interests. The idea is as inviting to-day as then, and certainly should commend itself to the practical consideration of our board. The manufacturing world could be made to feel the importance of Worcester as an emporium of mechanical arts.

A great many people seem to be all at sea as to the right to existence of a board of trade. Whether such doubters can ever be convinced or not of the value and utility of the board of trade idea, it may not be uninteresting to listen for a moment to the very briefly expressed views on this subject of some of the leaders of board of trade movement in various sections of the country. These expressions were received as a result of considerable correspondence on the part of your secretary to ascertain to what extent commercial organizations devoted energy to drawing to their city footless or itinerant industries which still lingers in the minds of some as the sole object of a board of trade. The keynote of the whole matter is sounded in this paragraph taken from Leslie's Weekly, one of the most conservative and reliable publications in America:

"Were it not for boards of trade and similar organizations established to protect public welfare, very little protective legislation would be granted by city authorities. These organizations are the mecca to-day for all public questions throughout the country. They create public sentiment, and all of these organizations in up-to-date cities have for good reasons abandoned the idea that their one duty should be inducing itinerant industries to come to their city. No organization is in the position to take up the public questions that the commercial organizations are to-day."

Portland, Ore.—"The vehicle through which the community can speak and act. It binds the business men of a city or town closer together—it means unity of action, harmony of purpose, and a combined and effective effort in securing things beneficial to the community."

Portland, Me.—"To acquaint the community with what it needs to compete with other towns in the way of general facilities, and railroads. Enthusiasm and self-esteem are the foundations of public spirit, and the board of trade should spend no mean share of its effort in bringing out the public spirit of the people at large. In the line of public betterment, a board of trade can do things for the community in which it is located that would be simply impossible for individuals to accomplish, even though they had the courage, time, influence and disposition to make a beginning."

St. Paul.—"The city which does not have a board of trade or some similar organization is not only behind the times, but it is certain to remain so. Never recommend an industry that has not proven of great benefit to the city and remunerative to the investor. Gain

absolute public confidence. An active board of trade can wield a powerful influence for good in municipal affairs. It should be an organization that should act immediately and jointly in any matter that may affect the interests of the city in general. All cities need publicity, and no organization is in a better position to supply it than the board of trade.''

Syracuse.—''We do not confine ourselves to securing new industries or to securing conventions, but we take an interest in and operate along every line which seems to advance the interests of Syracuse.''

Rochester, N. Y.—''A board of trade is as essential to a city as a schoolhouse, park or library, with the advantage in favor of the board of trade, its work being given freely. It is the people's forum separated from the influence of party or creed, a nucleus around which thought and effort concentrate until irresistible. A city without a board of trade or similar organization is not a city but a cemetery.''

Toronto, Canada.—''Boards of trade are the natural and inevitable outgrowth of our commercial life. They are part of that great system of the subdivision of labor which bespeaks our social and material progress. The necessities of trade and commerce produced them, and no more is required in defense of their existence than is required in defense of insurance, wholesale merchant or the banker.''

On this very night, as we are assembled here, the allied trade associations of Boston have for their guests at a banquet in the Somerset a delegation of gentlemen from Cleveland, who represent the Chamber of Commerce of that city. The Cleveland chamber has long since identified itself with the great work of making its city beautiful, and has expended much time and effort in the acquisition of facts as to what has been done in this direction by the progressive cities of the world. Everything which tends to the development and beautifying of its city is regarded by the Cleveland Chamber of Commerce as legitimate work. A movement in this direction by the Worcester Board of Trade, as was suggested in the annual report last year in the improvement of the Lake district, would certainly seem to be in accord with the aims of our fellow citizens of Ohio. These facts are presented to show that because a board of trade does not attract to a city a line of industries which is attracted only by a purse hung up, it does not follow that there is no legitimate excuse for the existence of such an organization.

There is much popular misconception abroad as to the scope of influence, sphere of activity and legitimate field of development belonging to that particular organization known in every city as the board of trade. The fact is the title is in itself to a large extent responsible for that popular misconception, but for want of a better name the work of such an organization need not necessarily be hampered. Time may, perhaps, give to the world some genius with sufficient mental fertility to coin a title more comprehensive in its embrace than that of board of trade. The idea is simply this: that an association of 500 leading successful business men of Worcester means an organization of 500 of the practical mental leaders of the community brought together under a common roof, free from all political bias or sectarian division, to take hold of, actively interest themselves in, and unitedly promote everything that touches the social as well as the commercial life of the city of Worcester. Trade is too commonly understood as being a mere matter of buying and selling between individuals, hence the idea that our Board of Trade in Worcester is a mere aggregation of buyers and sellers with personal selfishness, however laudable, as the start and finish of our aims and objects.

Our association means vastly more than this to Worcester. It means the crystallization of the thinking power of the half thousand individual members with their half thousand active minds, constantly producing ideas which should and can find a place of common asylum and of dissemination through the channels of common interest that are controlled only by organization, so that every movement of a social character,

of a political character, eliminating party, of an economic character, and every problem of a municipal nature should find under the rooftree of the board of trade a common platform for full and free discussion. In other words, our Board of Trade, beside being the magnet for attraction of every new, sound, healthy business enterprise that can be induced to come here from outside, and to foster in every sound, healthy and legitimate manner every enterprise that is deserving of encouragement within our borders, has a higher and more comprehensive field of activity at its doors. The Board of Trade should be the censor to which in spirit, if not in fact, every other organization in the city should feel it was subordinated, and to which it should look for leadership. The best thought, the best executive ability, the best promotive force should emanate from the membership of the Board of Trade, and its weight should be felt in every chamber of discussion in the city. The need of a board of trade building should not be lost sight of. Though the project of a new building for the Board of Trade has to a large extent remained dormant, still the subject is worthy of new consideration as the best means possible of increasing the influence of the board and of linking it more closely with the life and progress of the city. It is honorable to aspire for municipal dignity as an alderman or a councilman or a member of the school committee, but membership in these branches of our city government must necessarily be confined to a comparative few, and too often as a consequence of this limitation inexperience and downright absence of knowledge on given subjects of grave public import are brought face to face in our chambers of municipal authority. Here is where the members of the Board of Trade can exercise the most valued influence for good. We cannot all be aldermen or councilmen, honorable as these positions are, but we can all, both individually and collectively, as a board of trade, take such a lively interest in public problems that every day in the year come up for settlement or acceptance, that the opinion of the Board of Trade will be an important beacon light to those who are charged with the navigation of our ship of municipal affairs.

And now that the world is coming nearer and nearer to one common brotherhood, may I not say how much nobler yet will be that nation's distinction that found liberty the birthright of the strong alone and gave it to the weak; that found international justice a neglected principle and made it a controlling force; a nation which sought no conquest, but freely offered refuge; one which, not unmindful of national strength or honor, gained its chiefest glory in the happiness and increased opportunity of the individual citizen; a nation which found its competitors limiting their horizon to the mountains and rivers which bound them and taught them to look forth beyond all barriers and learn that all men are made of one blood and have one common destiny.

HON. T. E. BURTON, of Ohio.

WORCESTER BOARD OF TRADE.

BANK BUILDING, 11 FOSTER STREET.

OPEN 8.00 A.M. TO 5 P.M. PRESIDENT'S HOURS: 1 TO 2 P.M. MONDAYS, TUESDAYS, WEDNESDAYS AND FRIDAYS.

PRESIDENT, WILLIAM A. LYTLE. VICE-PRESIDENT, GEORGE F. BOOTH.
TREASURER, H. WARD BATES. SECRETARY, HERBERT M. SAWYER.

Directors.

H. W. GODDARD,	WM. A. LYTLE,	GEORGE F. BOOTH,	F. S. BLANCHARD,
CHARLES L. ALLEN,	WM. H. COUGHLIN,	IRVING E. COMINS,	WILLIAM FORSBERG,
EDGAR REED,	GEO. B. BUCKINGHAM,	J. RUSSEL MARBLE,	CLARENCE W. HOBBS,
JOHN A. SHERMAN,	GEO. T. DEWEY,	THOS. T. BOOTH,	WINTHROP HAMMOND,
PLINY W. WOOD,	REGINALD WASHBURN,	GEORGE F. BROOKS,	JOHN W. HIGGINS.

Clerk of the Corporation, CHAS. PERKINS ADAMS. *Auditor*, CHARLES A. CHASE.

The Worcester Board of Trade wants to keep on file at the Secretary's office a complete list of places where floor space can be secured for manufacturing and business purposes. There are calls made every day for such information. The Secretary would appreciate it if every owner of a building in Worcester used for manufacturing or mercantile business would furnish particulars of what he has for renting purposes, and if land-owners would also file a list of available building sites. State owner, location, whether store or factory, amount of floor space, amount of power available and approximate rental. If it is land for manufacturing purposes, state owner, location, number of square feet, general dimensions, any building thereon; if so, give floor space, number stories, brick or wood, power plant with horse power, and purposes last used. Also give name of railroad near it and side-track facilities. Give price that can be used as basis of negotiation.

This information is for the use of the Secretary, and is not to be used for any purpose except to locate new or present business interests. No compensation is to be asked for any lease or rental that may be brought about by the Board of Trade.

The newly elected Directors of Worcester Board of Trade met Thursday night, May 10, in their rooms on Foster Street and organized by the choice of Hon. William A. Lytle as President and Mr. George F. Booth as Vice-President. Mr. H. Ward Bates was elected Treasurer at the annual meeting in April and the Directors completed organization by electing Herbert M. Sawyer as Secretary for the year. The Directors were unanimous in their choice of officials.

The Committee on Legislation recommended that Congress pass the bill now before it providing for consolidation of third and fourth class mail matter.

A communication from the Richmond, Va., Chamber of Commerce, asking for co-operation in securing the passage of a bill now before Congress providing for fixing liabilities of common carriers, railroad and transportation companies for negligencies in certain cases, was referred to the Committee on Transportation.

The Board endorsed the resolutions recommended by the American Civic Association providing the setting aside government reservations among the Southern Appalachian and White Mountains.

It was voted to close the rooms of the Board Saturdays at 12 o'clock during June, July and August.

A special meeting of the Board took place on the night of Wednesday, May 16, to consider the bill before the Legislature providing for the height to which buildings may be erected in the cities and towns in the Commonwealth outside of Boston. There was a delegation of architects and builders present and Senator Arthur M. Taft explained the bill. It was unanimously voted by the Directors to oppose the passage of the bill in the Senate where it had reached the stage of enactment.

Herman S. Hastings, Secretary of the Metal Trades Association and Worcester Labor Bureau, has resigned his position and been elected Secretary of the National Foundrymen's Association and will have headquarters in Chicago. Mr. Hastings has been Secretary of Worcester Labor Bureau since it started and has been a prominent member of Worcester Board of Trade. He goes to Chicago with the best wishes of a host of Worcester friends. Mr. Donald Tulloch, for fifteen years a reporter on the Worcester *Telegram*, has been elected to succeed Mr. Hastings in the Worcester Labor Bureau.

THE WORCESTER MAGAZINE

JUL 19 1906 PERIODICAL DIV.

Vol. IX. JULY--1906 No. 7.

Magazine and Municipal Comment.
Giants of Then and Now.
Our Social Unrest.
Educational Results from Examinations.
Board of Trade Notes.

DEVOTED TO

Good Citizenship and Municipal Development

PUBLISHED MONTHLY BY THE BOARD OF TRADE
WORCESTER, MASSACHUSETTS,
U. S. A.

$1.00 A YEAR. 10 CENTS A COPY

CENTRAL SUPPLY CO.

Steam and Gas Supplies

Wholesale and Retail

Wrought Steel
Cast Iron
and Brass

PIPE

All Weights
and Sizes
1-8 to 24 in.

Automatic Sprinklers

Brass *and* Iron Fittings

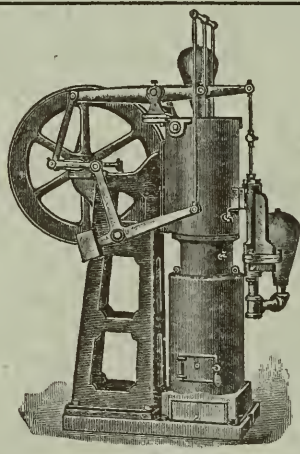
Tanks

Inspirators

Injectors

Traps

Hand *and* Power Pumps



Ericsson Hot Air Engines

Oil Filters

Wind Engines

Brass *and* Iron Valves

Towers

Pipe Tools

Railing Fittings

Pipe Covering

Hose, Etc.

The Leading Makes of

Steam and Hot Water Heaters

Radiators of all kinds and sizes

Send us your address and receive estimate (free) from responsible fitter for heating your home, store or factory.

Pipe cut to sketch. Complete Steam, Automatic Sprinkler and Heating Outfits. Pumps and Pumping Appliances of every description.

35 and 37 Waldo Street

WORCESTER, MASSACHUSETTS

NEW FIRST BAPTIST CHURCH OF WORCESTER.

The Worcester Magazine.

VOL. IX. JULY, 1906. NO. 7.

This magazine is published by the Worcester Board of Trade. Its reading pages are devoted solely to municipal development, good citizenship and the business welfare of Worcester. Space in these pages is not for sale.

MAGAZINE AND MUNICIPAL COMMENT.

Board of Trade Committees

Hon. William A. Lytle, president of Worcester Board of Trade, announced his committees at the regular monthly meeting Thursday, June 14. These committee men were selected after careful consideration, and it is expected that good work will result. Every member is a practical business man or a successful educator or prominent in financial institutions. It is expected that there will be frequent meetings this year and that some hard work will result. There is opportunity for good work and the committees certainly are competent. They are :

Advisory—Rufus B. Fowler, Hon. Walter H. Blodget, Charles H. Morgan, Hon. Edwin T. Marble, Samuel R. Heywood, Hon. Henry A. Marsh, Orlando W. Norcross, Dr. G. Stanley Hall, G. Henry Whitcomb, Matthew J. Whittall, Hon. Joseph H. Walker, William E. Rice, Joseph R. Torrey, Hon. Augustus B. R. Sprague, Harry W. Goddard, C. Henry Hutchins, A. George Bullock, Francis H. Dewey, Edward I. Comins, Arthur M. Stone, Dr. Carroll D. Wright.

Ways and Means—George T. Dewey, Walter M. Spaulding, Henry S. Pratt, Downie D. Muir, Herbert H. Fairbanks, Frank A. Drury, Alfred S. Lowell.

Manufactures—Clarence W. Hobbs, Alfred Thomas, John R. Back, James E. Orr, Alonzo W. Whitcomb, Edwin C. Harrington, George N. Jeppson.

New Enterprises—George F. Booth, John A. Sherman, Charles Perkins Adams, Arthur W. Parmelee, A. C. Higgins. Edward J. Cross, Thomas T. Booth, George T. Dewey, Herbert N. Leach, William J. H. Nourse.

Municipal Affairs—George F. Brooks, William H. Sawyer, Walter E. Bigelow, Frank R. Batchelder, Charles H. Pinkham, Richard H. Mooney, William H. Cook, Harry Ballard.

Taxation and Insurance—P. W. Wood, Alexander C. Munroe, Charles E. Grant, H. Ward Bates, Waldo E. Buck, George H. Vars, John M. Kilgore.

Foreign Trade—Charles L. Allen, Ernest P. Bennett, Lewis H. Torrey, Reginald W. Clarke, W. B. Scofield, Albert M. Powell, H. H. Hayes.

Meetings and Receptions—Irving E. Comins, James Draper, Reginald Washburn, E. G. Connette, Arthur C. Comins, George F. Booth, William W. Johnson, Charles F. Marble, Robert H. Chamberlain, Henry E. Townsend, George A. Park, W. H. Coughlin.

Mercantile Affairs—J. Russel Marble, E. Avery Brewer, Otis E. Putnam,

Elbridge G. Guy, Walker Armington, Winthrop Hammond, Joseph F. Sherer, Albert A. Spaulding, William Forsberg, H. J. Pinney, Henry B. Johnson, Arthur R. Haven.

Transportation and Railroads—H. W. Goddard, Pliny W. Wood, William F. Whipple, Albert H. Mirick, Charles L. Allen, Walter D. Ross, Channing Smith, William J. Denholm.

Statistics and Information—Reginald Washburn, O. C. Ansley, Irving E. Comins, Horace W. Cristy, E. M. Moriarty, Howard E. Sumner, Charles H. Pinkham,

Arbitration—John W. Higgins, Walter C. Porter, Marcus L. Foster, Walter F. Davison, Herbert F. Bagley, Fred O. Willis, Samuel D. Spurr.

Legislation—George T. Dewey, Hon. John P. Monroe, Hon. Rufus B. Dodge, J. Lewis Ellsworth, Charles T. Tatman, Julian F. Bigelow, Dr. Julius Garst. Elmer C. Potter.

Publication—Rufus B. Fowler, Irving E. Comins, Dr. G. Stanley Hall, George W. Mackintire, Milton P. Higgins.

Education—J. Russel Marble, George F. Brooks, W. G. Wesson, George I. Alden, Homer P. Lewis.

Railroads Not Yet Ready

And now the announcement is made, although not official, that nothing will be done in the way of abolishing Worcester's grade crossings or building a new union station this year. Although the word was sent by railroad officials several months ago that work would begin in a short time, those who were in close touch with the situation volunteered the statement that nothing would be done until the railroads got ready to do something. This was true and it is also true that the railroads have not yet got ready to do anything. With the hearings practically closed nearly a year ago new propositions have developed and the Boston & Maine Railroad has come into the discussion. This road finds that there is not room enough on the west side of the proposed new station for its tracks, and it is desired to have the station moved to the east of the location the Boston & Albany and New York, New Haven & Hartford Railroad apparently agreed upon. The whole matter is that Worcester has been honest in its efforts to have its grade crossings abolished and to have a new union station. The railroads have been jockeying, if recent transactions indicate anything. Now the railroad attorneys are off to Europe for a summer's rest, the chairman of the grade crossing commission has a European trip planned, and Worcester's city solicitor is on his way to the European centers and the whole thing is hung up. The grades of the approaches to the proposed station are not established, and there is not much probability that they will be until the merits and demerits have been contested inch by inch before the commission. Worcester appears to be slowly losing what it has secured in the matter of grade crossing abolition and if much longer prolonged there is no absolute certainty that Worcester will get anything it originally counted on.

When the Board of Trade made a few suggestions that were unquestionably for the benefit of the city, the cry went up that any suggestions meant delay, and the men who agitated the proposition were condemned as obstructionists. The City Council refused to consider any suggestions the Board of Trade made. They said the refusal to consideration of these suggestions was because they were afraid of delay. As has been said time and again there will be no earnest work done in the matter of abolition of grade crossings until after the railroads have made up their minds what they want.

Both have Broad Platforms

A member of the Board of Trade—the editor of a newspaper—recently made a statement that there were two clubs in the city that deserve the support of every good citizen irrespective of race, creed or color. He said there undoubtedly were others, but he had in mind two—the Worcester Economic Club and the Twentieth Century Club. The statement was also made that the platform of either one of these two clubs is broad enough for any intelligent man or woman to stand upon. In his comment he said:

"It is broad enough to give standing-room even to the monopolist, and if he hear things said in the discussions or

addresses which are intended to promote the public welfare, that send 'cold shivers down his back,' he will, if he be a man and a Christian, bear the castigation, unintentionally and unconsciously administered, with Christian fortitude and in time, perhaps, reform—'a consummation devoutly to be wished' from a public viewpoint.

"The chief aim of the Economic Club and the Twentieth Century Club stated broadly, as we understand it, is to discuss, or hear discussed, in a non-partisan way, questions of a public nature that interest, or should interest, the whole people.

"Clubs and associations engaged in such work deserve not only encouragement, but support. They should include in their membership men and women in all walks of life.

"Although some of the questions discussed under the auspices of these clubs are from their very nature more or less of a political character, yet the effect upon partisan politics or political parties is not considered nor should it be.

"To the broad-minded, intelligent man or woman the public welfare, the interests of the community and the state are paramount to the temporary advantage of any political party.

"If this view of public matters could be impressed upon the minds of our citizens generally, there would be less attention paid to the label of any particular party than to the welfare of the people as a whole.

"To spread the light in this direction, to educate the people to take a deeper interest in their own affairs, to enlighten them on questions of public importance that affect the well being of all, is the underlying purpose of such clubs as the Economic and Twentieth Century clubs."

The Magazine fully agrees with Editor Moriarty, but why not let the Board of Trade take up the questions that these clubs bring out? That is the province of the Board of Trade, and it should go into these questions and advocate them with the assistance of speakers of national reputation, so that there would be no need of clubs and societies of this kind. The membership of the Board of Trade is one of the best and most influential in the city and when they advocate a measure should have powerful influence. Organizations of this character are certain to have a healthy effect on a city, and the Board of Trade should fill the place that is now filled by these clubs that are formed to draw out discussion on subjects for the betterment of municipal and national conditions.

Governor Guild's Flat-Footed Stand

Following the action of the Legislature referring to the next General Court the so-called "merger bill," which was intended to give Massachusetts railroads the right to acquire the properties of street railway companies, Governor Guild has had the courage of his convictions and come out flat-footed against the New York, New Haven & Hartford Railroad in a special message sent to the Legislature. He compliments the Legislature for its action on the "merger bill," and wants legislation that will drive from the state the New Haven road as a purchaser of Massachusetts railway stock. He says: "I therefore urge upon you with all the strength that is in me the passage of some legislation giving relief from the grave injustice. Let Massachusetts announce that transportation within her borders is in future to be controlled by the people of Massachusetts and not by men beyond the reach of her laws and the inspiration of her ideals. Here is the bill which Attorney-general Malone has drawn, and is now before the Legislature:

"If a foreign corporation acquires, owns or controls, directly or indirectly, capital stock, bonds or other evidences of indebtedness of any domestic street railway companies having a location in any city or town of this Commonwealth, unless authorized so to do by the laws of this Commonwealth, the Supreme Judicial Court shall have jurisdiction in equity in its discretion to dissolve such domestic street railway companies, and the Attorney-general shall institute proceedings for such dissolution and for the proper disposition of the assets of such companies.

Mr. Logan on the Past and Present

In a talk given to the Worcester Republican Club a short time ago by Mr. James Logan, general manager of the United States Envelope Co., a stinging rebuke was given to those who are eternally referring to the good old times as being the best and declaring that the world is degenerating. He took a text from which he delivered his address, and it was Genesis vi:4: "There were giants in the earth in those days." In the most graphic manner, dealing with the facts as they exist and now exist, Mr. Logan showed conclusively that the good old times were far from being the best. He compared the wages of men before the Civil War with the earnings of men to-day; also the luxuries, the comforts the prices of meats, sugar, tea, coffee, potatoes and the necessities of life; he compared the equipment of mills, the amount of money in circulation, and before he finished his talk he convinced the club that those good old days were not to be envied. It was one of the best talks that ever has been given in Worcester; it showed that there is not so much corruption as the newspapers would have us believe, and he brought out in a forceful and practical manner the argument that the city of Worcester cannot be run on the same lines that a man would conduct his business.

He argued that Worcester will get better service out of its officials if the citizens occasionally would give them a word of praise and not be continually pelting them. While Mr. Logan spoke to the Republican Club his talk was not a party talk, but a talk irrespective of politics—a paper filled with sound sense and one that should be read by every person who has any interest in the municipality and takes any interest in the trend of affairs of to-day.

Good Intentions go Wrong

Boston has made an appropriation to advertise that city. The proposition to appropriate a large sum of money for that purpose is likely to catch the public notice for a time, not merely in Boston but elsewhere. The danger of that plan in Boston is that the idea will get current that the city is on the down grade and going so fast that it has to spend money to attract business to it. There is danger that the kind of advertising Boston will get, in generous quantity and with nothing to pay for it, will not be of the kind that Mayor Fitzgerald or any other advocate of a bigger, better and busier Boston will care to see. No one doubts the good intentions of Mayor Fitzgerald in this particular enterprise. Any proposition to advertise a city is generally taken in good faith and accomplishes some good results. Worcester could well be advertised by the Board of Trade and Merchants' Association by literature that will count, for conditions here, particularly financial conditions, are encouraging and Worcester need not be ashamed to advertise her city in this way. But a good many mistakes are made with good intentions. The downward road is said to be paved with them. And good intentions without good sense are like a ship without stearing gear. Mayor Fitzgerald ought to know, and probably does know, why Boston does not grow faster. It is because Boston is extravagant and wastes money. High taxes are the most powerful factor known in driving industries from a city. Next to that is the practice of borrowing money faster than the city needs to spend it. In a business-like administration when the public knows that no money is wasted, that the borrowing is kept down to the lowest possible point, and that no money is borrowed to meet current expenses, capital is not driven out, industries are glad to stay, building operations multiply; but when money is borrowed to pay political debts, when the city administration is ambitious to outspend and outborrow even the most lavish administration that has gone before, and when the political friends of those who will not aid the administration are thrown out of office as a punishment, the industries cannot be coaxed to stay. They will go out as fast as they conveniently can. This is as true in Worcester as in Boston, or any other city which makes extravagant waste and expenditures of money. A mayor can build a city and gain a reputation among other cities in no better way than refusing to follow the wasteful borrowing and spending of previous

administrations. It was Worcester that called the attention of Massachusetts to Boston's financial condition, and Boston to meet that reputation is trying to create a large fund to advertise and stay the tide of criticism that was setting against it. Let Worcester's City Hall officials take a warning from Boston's experience.

Don'ts for the Public

People grow careless unless they are constantly prompted in what not to do. The percentage of population that takes pride in the beauty and cleanlinees of a city is comparatively small. This should not be, but unfortunately it is. The American Civic Association, it is encouraging to say, is steadily growing throughout the country and doing a grand work in educating people to take more personal pride in their home and home city. Here are a few rules which the Association has sent broadcast and they should be read and preserved by every person in Worcester who has the good of the city at heart:

Don't throw waste paper on the streets.

Don't put chalk marks on fences or buildings.

Don't fail to repair or renew your pavements.

Don't forget to clean up your yards and gardens.

Don't have circulars printed to be thrown around town and blown around the streets.

Don't expectorate on the sidewalks.

The citizen interested in promoting the public welfare can help meterially by personally observing these rules. We must all remember that public policy depends on the action of many. If each individual does his or her duty and observes the laws and ordinances, order and progress result; if he omits to do his share chaos and disorder follow. Each American citizen can bring the realization of a "more beautiful America," the ideas of the American Civic Association, one day closer by observing these simple little don'ts in his or her own every-day life.

Patriotism consists in a faithful discharge of the small duties of life, as well as a utilization of greater opportunities.

Billboards and the Public Parks

A member of the Common Council has taken the initiative in the matter of removal of billboards from land bordering public parks. The particular locality is Crompton Park, where long lines of billboards on Millbury Street hide from view the park to persons on that street for a considerable distance. This is one move of several that have been made toward the abolition of the billboard. Whatever one's ideas may be concerning the billboard nuisance so called, there should be no question in the minds of everyone that they should not be tolerated along the borders of the public park system. The country is filled with these boards, and East and Crompton Parks show striking examples of what damage they do to the beauty of a park. Councilman McInerny's idea is to purchase the land between Crompton Park and Millbury Street for the purpose of abolishing the use of billboards. This is a matter which the City Council will have to consider more and more in future years, for there is no question that the tendency of the people is to abolish, in certain sections at least, billboards.

Going After Business

Does it pay to go after business? That is a question that every business man in whatever line has asked himself over and over again. The answer is emphatically yes. It has been tried and proven to be so. It has been tried by the individual merchant, the manufacturer, the lawyer, the doctor, the baker, the butcher, by the insurance man, and even by the green goods man. In fact, it has been tried by almost everyone who has made a success of his business. There is no line of business today that requires more study, closer application, better methods of business or more competent salesmen than the hardware business for example. He has a great variety of customers, as varied as the human race. He must deal with each according to his peculiarities. Going after business does not always imply searching for customers or business out on the road, but it may mean going

after the customer when he calls at your store for something. Many a customer has been driven away from the store by an incompetent clerk or a grouchy merchant or salesman. There are as many ways of going after business right as there are ways of reaching your customer — using the telephone, the telegraph, the mail, sending a representative, or going yourself. The telephone has been taken up as one of the most successful methods of getting business, but the mail order houses have used the mails so systematically that this method has met with remarkable success. There are many who would not endorse the catalogue house business or the mail order business, but it cannot be denied that there is a persistency about this method that wins. It is not because they have the goods and the price that secures them the orders, but the making known of the fact to the people. You may have the same goods and the same prices, or better goods and lower prices, but you fail to inform the people that you want to sell them to. The consequence is that the mail order house gets the order by going after it, and it is as true in Worcester as anywhere else that much of the business that goes away from this city, and a lot by mail order catalogues, goes because Worcester merchants do not go after the business in a practical and systematic way. There is absolutely no room for argument as to whether advertising pays. Some of the largest and most prosperous concerns in the country never went after business in any other way than by advertising. But notice how they do it—catchy, to the point, often changed, in season, perpetual. The old-fashioned way of advertising was to contract for a given amount of space in a newspaper and running an advertisement for ice cream freezers to run from June to December or for mowing machines from June to Christmas. Now the advertisement must be changed every few days and something must be said to catch the eye of the reader. There is plenty of business to be had, and if you are not getting your share, go after it. There are various ways and it is your judgment to tell you to go after it.

Features of New Automobile Law

The present year undoubtedly will be a trial for the new automobile law which Gov. Curtis Guild, Jr., has signed. It is in some degree a compromise measure, for it has features which are a distinct gain for the automobilists and it has some others which they opposed with much vigor and with which they are not at all in sympathy. The increase of the speed limit, of course, pleases them, but the stiffening of the penalties for infractions of the law, with the provisions for imprisonment, has aroused some protest and will serve as a subject for discussion and argument for sometime to come.

The extension of the speed limit, from fifteen to twenty miles per hour outside of cities and towns, and from ten to twelve miles per hour inside cities and town, places Massachusetts alongside of other up-to-date states. Most of the states in this part of the country have the same or similar speed regulations, though Maine and Vermont still bear more heavily on automobilists. Some of the western states are more liberal, Minnesota, Michigan and some of their neighbors granting the right to speed at twenty-five or thirty miles per hour. The further requirement that automobiles must be timed over a quarter-mile stretch outside of cities and over an eighth-mile stretch in cities, makes it far more difficult to capture offenders against the law. It must be borne in mind, however, in connection with this new speed limit, that any city or town can extend or restrict these limits as it sees fit, subject to protest and a hearing before the State Highway Commission.

The new law is the result of much hard work on the part of legislators and others, and on the whole it appears, to the unprejudiced mind, a tolerably fair and adequate measure. The provision for imprisonment will not strike the average person as too severe, and certainly no self-respecting automobilist need have any fear of it. The new law is easy to obey, and it will be odd if experience of a year does not prove it a satisfactory piece of legislation, though some improvements may suggest themselves as time tries out its strong and weak spots.

GIANTS OF THEN AND NOW.

Mr. James Logan, general manager of the United States Envelope Co., made a reply to critics who claim that the world is degenerating and that the good old times were the best. His reply was before a political organization—the Worcester Republican Club,—but it was not a political address in any way, but a series of sound, common-sense statements based upon facts, and after the style of the preacher he spoke from text: "There were giants in the earth in those days." It was a paper that should be spread broadcast, and the Magazine takes the liberty to use a liberal portion of the address.

I WANT to talk a little of those good old days of the past, and so lead up to these good new days of the present which some are pleased to call our degenerate times. I want to talk a little about some of the men of those good old days, who, according to some men's notions, were larger than we turn out under present conditions. The fact is, some things grow larger the further you get away from them. I am going to take for a text a few words from the fourth verse of the sixth chapter of Genesis: "There were giants in the earth in those days."

In the thought of a great many people there is little good under present conditions. The only really good days were those of the past, and those good old days have gone forever. You hear the same pessimistic wail in about every department of life religiously, industrially, and politically. Things are going to the bad. I am optimistic enough to believe that the movement of life is upward; that there is more honesty, truth and charity, more real religion in the world than ever before, and we know that there is more associated effort being put forth to ameliorate human conditions than any preceding age has ever witnessed, and with all the corruption and graft, with all the injustice, with all the inequalities in human conditions, God never gave his people better days than he is giving them to-day. There are great perils confronting this republic, and the most optimistic man must seriously consider them. There is a peril in great wealth unrighteously used. There is a peril in the great corporation unrighteously managed, but the corporation is the creature of the law, and the people who make the laws have the power in their own hands for their control. The great majority of men mean to be honest and they will deal fairly with you. We hear men bewail the fact that men are less religious than formerly, and in support of their theory they refer to the fact that formerly men went to church and stayed all day, and that is accepted as an evidence of piety. They once thought that a minister ought to carry himself so that every time you saw him your thoughts would naturally turn toward the undertaker and the cemetery; and a deacon to be real good ought to have a face long enough so he could eat out of an old-fashioned churn and be sour enough to turn milk; but we don't think so now. But we need to analyze the situation somewhat before we jump at the conclusion that men are less religious. We need to remember that in those days the world was small; the railroad, the telegraph, the telephone, had not come into existence. There were practically no newspapers, periodical magazines, and the means for disseminating news was primitive, and life was local and provincial. They got little news from the great outside world and the church meeting on Sunday was the one bright spot in the week toward which they all looked for a respite from the drudgery of laborious toil that began at sunrise and often did not end till after the sun went down.

The pessimist in considering the industrial problems of the present time refers to the all-round workman who could do anything and everything. There were giants in the earth in those days, but according to his notion these have all passed away, and we do not have such workmen now. We hear the pessimist say that by the sub-division of labor man is becoming simply a human machine, and they sigh for those good old days of the apprentice system which made an all-round workman, who could do anything. Now there is no doubt but that the apprentice system did make some all-round workmen, but the thing which strikes our attention in everything is the exceptional.

If we meet on the street an intoxicated man, we make a mental note of the fact, but we pay no attention to the ninety-nine men who are sober, and the simple fact that the all-round workman was so noted only goes to prove that he was not the common, but the uncommon product of the apprentice system, and it is well inside the truth to say that the scale to which the ordinary workman is forced to work today would completely paralyze the former so-called all-round workman. A short time ago I made a list of every foreman that I ever worked under, and I worked in a woolen mill from the time I was ten till I was about sixteen years of age, and I have no hesitation in saying that more than half the men in our packing rooms today are brighter and smarter men than any foreman I ever worked under in the mill, but "there were giants in the earth in those days."

Prior to the Civil War, New England and the Middle States were the center of the manufacturing industries. Massachusetts has led the country, if not the world, in intelligent legislation for the protection and elevation of the working-man, but up to the breaking out of the war, even the state of Massachusetts had done little in the way of legislation on the employment of women and children, or on the hours of labor, and such legislation as had been enacted was not very rigorously enforced, as there were no factory inspectors, like what there are now, to see that the laws bearing on labor were observed. In 1876 the chief of the state detective force was authorized to detail one or more, but not to exceed three, of the force to act as factory inspectors, although they were not called by that name until the passage of chapter 214, of the Acts of 1877, which became a law on May 11, 1877. At the present time the force consists of twenty-eight inspectors, of which twenty-six are men and two women. In those good old days the hours of labor were long. The day's work often began at 5 o'clock in the morning and lasted till 7 o'clock at night, with a half hour at 7.30 a. m. for breakfast, and three-quarters of an hour for dinner at 12 m. In those days when breakdowns occurred, the piece to replace the broken part often had to be made, for that was before the day of interchangeable parts in machine construction. It is difficult, under the present conditions, to appreciate the primitive ways in which business was conducted prior to the war, but it is necessary to get clear-cut notions of those former conditions in order that we may appreciate how fast we have been travelling.

Prior to the war, there was very little money in circulation and wages were very low. In Cherry Valley, the factory village in which was the writer's home in early boyhood, forty years ago, there was hardly a piano or organ, save the one in the little village church. There was hardly a house in the village which had a carpet in its parlor, even; some had rag rugs braided and put together by the housewife. Not a single house in the place had a bathtub or toiletroom and very few even had running water. The ordinary workman in that village today has in his home more of the luxuries of life than the proprietors of the local factories or the well-to-do farmer or merchant had before the war. There were few newspapers in those days, and such as there were had very small circulation. The telegraph had hardly come into existence, and the means for gathering news to fill a paper had not yet been evolved; so that the tin pedler acted as the medium for the exchange of news between the country and the outside world, as well as for the exchange of products, and in time there grew up between him and his customers a bond of friendship, and his periodical visits were looked forward to with keen anticipation.

The tin pedler was somewhat like an army of invasion; he lived on the country; he had very little money, and his lodging place at night was where night overtook him, and for his keep and that of his horse he left the good housewife something in the shape of a tin pan, pail, broom or what not, so that his cost of doing business was very small. These experiences gave free rein to the natural born trader and the trading instinct was developed to a remarkable degree, so that the name of the "Yankee pedler" became a synonym for everything that was shrewd, sharp and sometimes un-

scrupulous in business practice. These tin pedlers were giants in their day. Relatively, they were smarter than the great mass of the people. They saw a great many people in the course of their regular trips. They carried the news from the great outside world to these people scattered on the lonely farms, and often this was their only touch with the outside world, and you can readily understand that these farmers looked upon this man with his wonderful fund of information as a great man, but he would not be looked upon as a great man to-day, but there were giants in the earth in those days.

Recently, at a meeting in Boston, called to consider some of the present-day industrial problems, I sat beside the wife of a Harvard professor, and during the course of the meeting she referred to those beautiful days of the past, and very greatly deplored present industrial conditions. It so happened that that very week there had come into my possession the payroll of our Whitcomb division for the year 1866, just forty years ago. I asked her what she really knew about those former ideal conditions, and developed the fact that she knew practically nothing. I then suggested to her that they might not have been so ideal as she imagined, and I told her that the average wages of the girls in the Whitcomb factory in 1866 were just 72 cents per day, and the highest paid man in the factory was Mr. Swift, the inventor, whose pay was $15 a week. To this she replied, "Very true, but remember how much more a dollar bought in those days than it does now," and this is the impression a great many people now have. I then suggested to her that statistics showing the percentage of advance or decline in prices were often so scientific and so general that they did not convey to the average mind much of any information. What we needed was to get something more concrete. You might say to the ordinary layman that the price of commodities had advanced or declined 5 per cent., but that did not convey to his mind anything very definite; but to say to him that coal had advanced $1 per ton, or flour $2 a barrel, meant something very real, and could be readily grasped. In order to get somewhat of a real comparison of the purchasing power of the dollar of 1866-7, as compared with 1906, I secured the household bills of a family who formerly lived in Worcester, buying their groceries from Darius Putnam, and the prices given for 1906 were those paid by my own family at the same store kept by Mr. Putnam's son, and a comparison of the figures shows a marked decrease in cost in favor of 1906.

In engineering work twenty-five years ago there were comparatively few technically trained men, and when the young man went from the Tech then, he was lined up against other men who had not received a technical education, and when this young man technically trained had gotten some practical experience, and had, so to speak, found himself, he showed up larger than the other man who had not been technically trained; but the larger truth is this, that as a general proposition the technically trained man of to-day is relatively head and shoulders above the other man, while the man is larger and is infinitely better fitted than men were twenty-five years ago, but the problems with which he is called upon to wrestle have grown faster than the man, and this captain of industry was putting some of these boys up against problems that would have staggered him twenty-five years ago.

Again, what kind of a success would be expected in an industrial enterprise if they changed managers as often as we change mayors? And I believe I am justified in saying that hardly an industrial enterprise on earth could be successfully managed by a board of directors as large as our city government, meeting as often as they meet. I am not finding fault. I am simply stating conditions which militate against a high degree of efficiency. Men complain of waste and mismanagement, but measures looking toward relief must have men of capacity to make them effective. There is no doubt but that in every department of the city government there are men who could be supplanted by better men, but they cannot be supplanted, and to attempt even to

put into effect changes which would work for a higher degree of efficiency would be likely to cost the man at the head of the department his position at the next election.

I believe I am justified in saying that not one in five, and I don't think one manufacturer in ten, knows the cost of his goods, and the foolish things that some of them do, if they could be peddled before the public by the daily press in the same way that the doings of our city government are served up hot, would make some men who have the reputation of wearing a No. 9 hat look not like 30 cents, but like 12½ cents. The executive must be a specialist along lines which make for efficiency in administration. To men working as parts of one harmonious whole must be given a certain amount of latitude in which to exercise their power of initiative. They must be given intelligent direction, and then left, in large measure, to work out their problems in their own way.

No code of rules and regulations that was ever drafted can take the place of intelligence. The organizing executive must have a knowledge of men, exactly as the mechanical engineer must have a knowledge of material and mechanics. The right men must be selected, trained and fitted into their proper places in this vast machine, and if a man does not make good, he goes out. That is management in industry; that is what produces commercial efficiency, but in municipal matters the chief executive, the city's manager, has no such latitude.

We hear men complain that the men in our city government are not of so large caliber as formerly. To make good their claim they will name a few of the men who formerly served the city, and who have made their mark in the world of business. But those men who are so named were the leaders, and the rank and file were not up to that standard, and it ought also to be said that these men who stand out prominent, as a rule, made their mark in the world of law and business after they had served the city and not before, and the men who make this complaint do not know anything about the kind of service which was then rendered.

I now want to say a few things in connection with municipal affairs.

The security of Worcester is entrusted not to the Mayor, Board of Aldermen and Common Council, but to the people in the abstract, and to you and me in the concrete, and if it ever goes to the bad it will not be because the leaders were to blame, but because we ourselves were unworthy. As some one has said: "Not the act of God, but the negligence of man."

The state and the city as well as industry in its practical working always to a greater or less extent bears the mark of the spoiler, the stain of uncleanliness. Even in its noblest periods of public life, there are always visible in the practical and political life of a great city the imperfections which mar and which are never absent where men struggle to attain their ends. There are times in the history of every people when the worst vices are thrown into sharp relief by the corruption and inefficiency of political leaders. Perhaps there is corruption, and it is perhaps safe to say there always has been and perhaps always will be, at least until our humanity has been put through a refining process by which the dross will have been burned out. But all our public servants are not venal and mercenary; all men in public service are not on the make, looking for a rakeoff at the price of their manhood. It is so easy to be suspicious, so easy to insinuate, so easy to warp the facts, but we ought to remember the great law of ethics: that the man who makes a damaging statement about another man, not knowing it to be true, is the twin brother to the man who makes the statement which he knows to be absolutely false. Politics means such measures as involve the health, comfort and prosperity of 130,000 people in Worcester, and it is possible for a man to make politics his calling and do as high service as the Christian preacher or teacher. You hear men say they want a business man's administration; they would like to see the business of the city run on business principles, just as you would run any great industrial business. That is ideal, and we should

strive for it, but the ideal is not always attainable. It does not follow that because a man is a shrewd lawyer or successful manager of a bank, railroad or great financial, mercantile or industrial enterprise, that he will be equally successful in directing municipal, state or national affairs. In one the conditions which make for success he may absolutely control, and in the other the conditions control him. The city of Worcester cannot be run on the same lines that a man would run his business, and we might just as well recognize that fact. What a happy time a general manager of a great industry would have and what a splendid success he would make managing the business, if the dear public elected his managers, superintendents and foremen, to say nothing of all the ordinary workmen. As the burdens of management have grown heavier, men in industry have learned that there must be more care used in the selection of foremen, superintendents, heads of departments and managers to handle these larger problems, and that these men must each have extraordinary qualifications for the particular positions they are expected to fill. They may or may not be good fellows with the glad hand; but if they have the quality of good fellowship with all the other qualifications, they are gems of the first water. The largest factor in the success of men who have made their mark in the world of industry and commerce is their ability to wisely select their subordinates, and in successful corporations these selections are made not by committees or by boards of directors, but by the man who is to be held most directly responsible for results, the manager. In city business you cannot always select the best man for the place. I do not believe there is a head of a department in the government of the city of Worcester who can apply to his department the same fundamental business principles which make for commercial efficiency in the industrial world.

Granted that they did their duty and gave to the city the best service of which they were capable, it ought to be said that they wrestled with smaller problems, and while the men in our present city government may not be larger than those former public servants were, the problem has grown to enormous proportions, and those same men probably would not handle the larger problems of to-day any better, if as well, as our present city government handle them. In twenty years from now, when some of the men now serving the city have made their larger mark in the business and professional world, no doubt there will be those who will line up the men who will be serving the city in 1926 with these men of 1906, and will say: "There were giants in the earth in those days."

In the conduct of a business the management has an opportunity to mature its plans, without having them all pulled to pieces while they are being wrought out, and I believe it is well inside the truth to say that not one business in a hundred would be successful if every move that was to be made was peddled through the press in advance of the time for making the move. The management would be checkmated at every turn, and that is what we have in politics.

In the Boer war in Africa, the press reporters followed the army and with a nose for news they gave the world the story, but it cost Great Britain millions of dollars and thousands of lives. The Japanese took a different tack, and for the first time in his life the reporter took what they chose to give him, and was kept where (the Jap thought) he belonged, so far in the rear that he could not give their plans away in advance. Now, when I say these things about the publicity which the press gives to city business, which sometimes works against the city's interests, I am not unmindful of the enormous good which results from this publicity. Without the searchlight of the daily press, graft and rottenness would soon destroy the very foundation of our government. Under present conditions, in the management of industry, a man must have nerve enough to swing the sledgehammer and break up the newest and most expensive machine in his factory, if it has been superseded by a better machine. The members of the city government must look beyond the present to the needs of the future. Under existing political conditions, un-

fortunate is the man of whom it can be said: "He made a splendid record in the Common Council, Board of Aldermen, or as the Mayor of the city." He did not get a single newspaper roast through the entire year. If a man has any red blood in his veins, if he insists on doing some of his own thinking, he has got to expect to be roasted all the time. Every man in public life, who honestly does his duty as he sees it, is bound to create enemies, and he has got to take the ridicule, abuse and fault-finding of every little two-by-four man who has been disappointed by not getting what he wanted for himself or his friends, or, on the other hand, by getting just what he deserved; while the public servant who does his duty struggles on toward the goal with no prize but the approval of his own conscience.

Abuse is not convincing argument that the position taken by a public servant is wrong, and often that is all that is put up against the public servant who declines to allow some newspaper writer to do all his thinking for him.

Men must expect abuse who dare to think for themselves, and having thought, dare to act and vote in accordance with the dictates of their own conscience, even though such vote shall run counter to the wishes of a man who fain would play the part of an uncrowned king in the community. At the jubilee meeting of the Chicago press in January, 1905, there was a notable gathering of newspaper men, at which one of the speeches was made by Gov. A. B. Cummins of Iowa, who defined the editorial page as that part of the newspaper which contains the reasoning, analysis, criticism, censure, comment or praise upon the published facts.

He then said: "There is no other one factor so responsible for existing practices, for the high or low civilization in which we live, for civic honesty or civic purity, or civic impurity, as the editorial page of the vast circulating library, commonly called the press. The fidelity with which the voters will in the future direct the destinies of their country is largely in the hands of those who assume the responsibility of expressing their views in the newspapers. The integrity of those who make up the public service will, in great measure, be determined by the men and women whose duty it is to lay before the people an unprejudiced, unbiased and high-minded conclusion upon the things committed to the care of public servants."

Well! again we have an ideal to work for, but it has not yet been attained.

We have good men in our city government now, and we will have more good men when we deserve them. When we show a proper appreciation as a partial payment for the services they render, and these same men could and would render better service if they received occasionally a word of appreciation, rather than abuse and blind, indiscriminate kicking in the majority of cases, by men who often don't know what they are talking about. It is so easy to pull down, but constructive work is quite another thing, and is mighty hard. When the dear public and the press give public servants proper recognition for constructive work, the public will find more men willing to serve them.

Ideals are like stars; you will not succeed in touching them with your hands. But, like the seafaring man on the deserts of water, you choose them as your guides, and following them you reach your destiny.
—Carl Schurz.

OUR SOCIAL UNREST.

President Carroll D. Wright of Clark College has figured out the most practical way to be content. In the discussion of social problems there is no higher authority and naturally much interest is created by a recent address to a graduating class on "Social Unrest."

A MODERN poet has told us, "Be content; contentment means inaction."

And yet we are constantly being taught that we should be contented, and this whether we are of high or low degrees. Especially when speakers and writers are dealing with our unrest, the urgent necessity of contentment is enforced. So I would have you who are closing your experience in this institution take into consideration some of those things which make our unrest and what the conditions are that bring it about; but I would have you go into your future callings, whether into higher institutions of learning or into the world of business, with the understanding that the contented man in an absolute sense is not the one who is a potent factor in carrying on the world's work.

We get pessimistic under this talk of unrest, of discontent. We see things through a glass darkly. We are apt to have an inaccurate perspective of conditions, and thus come to the conclusion that our period in the world's history is the result of causes that ought not to exist, and that the social order is on the verge of destruction. So there is much pathetic talk of the unrest under our modern civilization. But a casual reading of history shows unrest all along the line, the difference being in degree and in the various conditions which cause it. Whatever our view, we must conclude that the essential factors of unrest at any time, and especially at the present time, must be ethical, for ethics comprehend the laws of right living, as Spencer puts it, and beyond the conduct commonly approved or reprobated as right or wrong, it includes that conduct which furthers or hinders, either by direct or indirect ways, the welfare of self or others.

If this definition be correct, the industrial situation has more to do with social conditions than any other factor. The industrial power contains in itself the moral, intellectual and physiological elements which are the great essential factors of human welfare, and thus the most essential factors in ethics and in social organization.

If we look at the purely religious side of ethics, we find the chief factors to be hope and ignorance: the hope of a happier state and ignorance of what is to come. There is no content without hope, and none without ignorance, yet both lead to discontent. Under close analysis it is discernible that contentment with one's lot is the virtue of the subjects of a despotically-governed and non-progressive state, that is, that condition out of which men cannot grow, having been born to it, the despotism under which they live giving no opportunity for development or for the realization of the material hopes of subjects Self-denial, which is considered the basis of contentment under despotism, becomes the virtue of a poor and unprosperous people.

Ethics and pure religion have much to do with everything that affects the conduct of life. They constitute the art of living well, not merely dying well, and they are in themselves the essentials of being and of doing. Poverty and pure religion cannot exist among the same people, for such a religion cannot prevail unless the people are engaged in that class of employment which tends to broaden all their faculties, to awaken not only their sense of duty to their kind, but also to develop their love of beauty, of art, and of all that adorns and ennobles life.

In former times a life of poverty was the ideal life, and this life continued to be the leading thought until the modern system of industry took deep root. But poverty is not now the blessing, but the

curse of society, and the whole social effort is not so much to ameliorate as to abolish it entirely. Thus charity, instead of being regarded as the ideal virtue, is looked upon as a weakness, if not as a vice. Of course, I speak of the charity that simply involved almsgiving. To help men we must now help them to help themselves. We must give them work, employment, occupation, opportunity.

But opportunity leads to ambitious thoughts, and to a consequent unrest. The saddest spectacle in the community is the man who is ambitious to accomplish noble results, but finds himself lacking in capacity. So the equipment you receive in the schools is absolutely essential to enable you to accomplish something more than the mere work of drudgery. It is to give you some of that joy of work of which President Charles W. Eliot has recently spoken.

These things lead to the thought that intelligence may be at the bottom of whatever discontent prevails. When man knows enough to desire a higher standard and a better condition, and his environment prevents his reaching them, he is discontented. He may be contented with the idea that he is progressing, but he cannot be contented, when intelligent, with the idea that he is remaining stationary in his environment. So more intelligence is needed to tell him how to secure his higher standard and his better condition.

This is as true of the material as of the moral and mental world. The manufacturer often finds that he is obliged to sell for old metal the costly mechanical construction of the decade previous. Old successes are constantly giving place to the new order, which makes old mechanical perfections exceedingly bungling in our sight, and they must be destroyed, or sold for old metal, giving place to the new.

We may have perhaps overstimulated intellectual development. In our educational processes we may have led to the thought that the recipients are entitled to something more than they can possibly secure. Certain it is that those employed in the lower grades of remunerative labor are asking serious questions and demanding serious answers. This leads to all forms of speculative conditions, such as socialism, a reorganization of government, and thus of society.

If the average of wages is such that an able-bodied man cannot bring up his family in a house good enough for his self-respect, with food good enough to maintain the body at its highest efficiency, and at the same time make some provision against sickness and old age, are not all the moral instincts of the man aroused? And, if these things cannot be accomplished, is not his discontent legitimate?

Here is a cause for any prevailing discontent at any time, whether at our own or at any other period. There are various other factors. The great labor question, perhaps, lies at the bottom of discontent, but we have other questions equally important, equally serious, like the negro question of the South.

America, however, is not alone, for England shares the general unrest of the world. It shares the decay of the religious beliefs by which the social frame has hitherto been largely sustained. England shares the failure of trust in a future life as the scene of compensation for suffering in this life, which has hitherto reconciled the less fortunate to its present lot, but which does not now satisfy in every respect. England shares the discontent which, when religion ceases to breathe contentment, is inevitably one of the first effects of popular education. It shares the prevalence of popular knowledge, of social reveries and chimeras of all kinds. It shares the unhappy effects of the sharp line of division between employer and empolyee, and the danger arising from the eagerness of the masses to use the political power of which they have become possessed.

All countries have their share of industrial disturbance and peril, owing to the great number of wage earners and the large proportion which factory people, mechanics and miners bear to general population. So, too, the sensitiveness of the vast commercial system, partly made up of industries which may be

artificial and factitious, but which have their effect.

I might dwell upon the influence of immigration, upon the entrance of women in industrial pursuits, upon intemperance, and upon various other elements in our civilization which cause disturbing relations, discussions and controversies. They, however, are all the outgrowths of increasing intelligence, and when that intelligence becomes thoroughly developed, in it will be found the solutions, and, when the solutions of the causes of our special unrest are found, the increased intelligence will develop others, for as Macaulay's remedy for the evils of liberty is found in more liberty, so the remedy for the unrest which comes of intelligence is greater intelligence and a broader understanding.

It is often stated that crime is on the increase, and that modern civilization is thus, in this respect, a failure; but a thorough understanding of the elements of crime, the fact that the public conscience is more sensitive than heretofore, that acts which were formerly misdemeanors have become parts of the criminal codes everywhere, and thus show increase in numbers without a real increase of crime,—all these things should be understood before reaching a conclusion that our population is more criminal than that of previous generations. We throw the searchlight of fact, of investigation, upon all wrong doing, and thus there is an appearance of an increase in the volume of bad actions, when the truth is that, relatively, crime is on the decrease.

The true condition to which every individual should seek to arrive is that of law-abiding patriotism. Criticism is right and powerful, but hypercriticism is both mischievous and misleading. We should look at things in their true light. We should recognize that patriotism in our own era does not mean simply service in the army, does not mean guns and all the equipments of war, but that it means that silent, effective, ever-present patriotism which comes from true citizenship and a recognition of authority, both moral and legal.

Every young man and every young woman going out of this institution today should recognize his or her duty, which is to do all possible, as individuals, to preserve social as well as individual integrity. Each should recognize the precept laid down by the martyred Lincoln, "Let reverence of law be taught in schools and colleges, be written in primers and spelling-books, be published from pulpits and proclaimed in legislative houses and enforced in the courts of justice; in short, let it become the political religion of the nation."

This is the true patriotism we should adopt. This is the true spirit, and the discontent which comes with it will be that righteous discontent that leads all men to seek better conditions and a higher standard of living, out of which will come the true content, that of satisfaction with the knowledge that we are growing and not given to retrogression.

Senator William P. Frye's answer to the question, "What preparation should a young man have who purposes to take up politics as a career?"

A liberal education, much historical reading and a knowledge of human nature. In temperament he should be kindly, should be friendly toward the world. If you are not friendly you cannot hope to have friends. Industry and good habits, primary virtues underlying all success, are as necessary in politics as in anything else.

EDUCATIONAL RESULTS FROM EXAMINATIONS.

AS public schools are public institutions they and their methods are fairly open to criticism. All friendly and fair criticism is always welcome. The unfriendly, unfair and ignorant criticism sometimes needs itself to be criticised and rebuked.

The last fifty years have witnessed tremendous changes in the educational system of the country, growing out of changes in general educational views, educational experiments and changes in American life and ideals. The changes have been largely in the line of creating a greater number of studies in the various courses, and consequently spending less time upon the old-fashioned or academic studies, in training the hand as well as the brain, in introducing the kindergarten course, in increasing the work of the high school and differentiating its functions, in building better schools, and in compelling all children between seven and fourteen years of age to attend school. Those in closest contact with the schools, the superintendents and the teachers, feel that most of these changes are wise and such as to produce better results than were obtained years ago.

There are, however, "stand-patters" in education as well as in politics who are unable to see or to appreciate these changes, and who constantly hark back to the "district school" and the "three R's" as their ideal of a perfect educational system. They forget that a district school is no more possible in a crowded city than a farm for each household, and that the three R's, most excellent subjects of thought and study, never fully trained the whole of a human being or gave him the best preparation for life.

Last year a sub-committee of the Cleveland School Board, believing that the three R's were neglected in their schools, made an examination to prove their belief. They examined five representative rooms in the eighth grade in the good old-fashioned branches.

From the results of these examinations and the answers given by the teachers to certain questions in reference to the time devoted to the different studies, the Cleveland committee came to these conclusions:

"The amount of time now given to reading aloud is ridiculously small and the results correspondingly poor."

"The non-essential branches have been permitted to encroach upon the time that is needed for the teaching of branches that are essential."

"More valuable results might be obtained by more thoroughly working upon the 'great studies.'"

"The intensive teaching has great advantages over the diffusive system now so common."

In the Boston English High School not long ago 350 children were examined in fractions, and only 13 had 100 per cent; that is, 3.7 per cent were perfect, about one-half obtained less than 50 per cent, and 11 children had zero on the test.

Instruction was given in these subjects for a few days and another test was given, made up of such examples as: Find 15 per cent of 33 and ⅓; add ⅛ and .207 and find ¼ of the sum. In this test 43 per cent of the 367 boys failed to get an average of 50 per cent.

One cannot help wondering what kind of instruction these boys received in the High School. At first sight these results seem to be very discouraging, but let us go a step farther.

These same questions, given in the Boston English High School, were given recently in several rooms in different grammar schools, and the results were much better. In one room the children obtained an average of 75 per cent, in another 76 per cent. In one room in the eighth grade 60 per cent had over 50 per cent average, and five pupils out

of 48 had 100 per cent, or 9.4 per cent were perfect.

Some of the examinations given in Cleveland have been, through the courtesy of the masters and teachers, given in Boston schools. They were taken in the eighth grades, in schools widely scattered, and composed of different material; in girls', boys' and mixed schools where the conditions were made nearly the same as those in Cleveland.

Does not this show that the subjects are taught in the grammar grades, but that children, just like older people, forget very quickly? The loss of power when not practicing in music is well known; it is just as true with both adults and children in arithmetic.

An interesting comparison was made last year in Springfield. In that city an examination was given 60 years ago, that is in 1846, to ninth grade pupils in the three "R's." This same examination was given in that city in 1905. The results of these two examinations, 60 years apart, were as follows:

	1846.	1905.
In arithmetic . . .	29.4%	65.5%
In spelling	49.6%	51.2%

Some of the examples in arithmetic were: "Multiply 10,008 by 8009." "In a town five miles wide and six miles long, how many acres?" "What is one-third of 175½?" "What is the simple interest of $1200 for 12 years 11 months and 29 days?" Some of the words were "accidental," "chirography," "deceitful," "evanescent," "hysterics," and "inconceivable."

These examples in arithmetic have been recently given in several Boston schools and the results were not only better than those sixty years ago, but they were even better than last year's results in Springfield, as one room had an average per cent of 76.

Because the children in Springfield last year had in this one instance better per cent than those of 1846, one educational journal says: "This examination practically decides the question as to whether the schools of our fathers and grandfathers produced better spellers and cipherers than the present day schools."

Examinations alone are very uncertain tests of either knowledge or ability in child or in adult. Their real value lies in stimulating pupils to work, that is, in their influence before they are given rather than in making just comparisons after they have been taken, and yet they are in many cases one of the best means of judging we have.

The Cleveland report and eastern critics condemn the modern school system because the results obtained in the three "R's" are sometimes below 85 or 90 per cent; forgetting that such high average per cents are rarely obtained even by adults in any exact study; and forgetting, also, that the children of today can answer questions and get good per cents in civil government, elementary science, music, manual training and many other subjects that their fathers and mothers know nothing about.

Again, is it fair to condemn the whole school system because less time is now given to certain studies than formerly, and the results are therefore supposed to be poorer, although this remains to be proved? It would be just as fair to say because children years ago could not answer questions in elementary science and civil government, therefore the old-fashioned schools of 1846 were perfect failures.

The trouble of congestion of studies and questionable results lies in the ambition of teachers, superintendents and special directors to go over too much ground, and to forget the value of drill and review. Keep all the studies, but teach fewer subjects in each and teach those more thoroughly; this will greatly improve the work of the schools. This has been done in the new course of study in geography; it will undoubtedly be done in the courses in arithmetic and language now being formed by experts in those studies.

Who would exchange the splendid instruction given in the Boston and Cleveland schools in elementary science, statesmanship and civil government for a few higher per cents in arithmetic or in spelling, excellent as that might be?

Who would exchange the attractiveness of the modern schoolroom with its atmosphere of refinement, broad culture, acquaintance with art, literature and good books, its practical handling of tools,

scissors and the cooking stove, its new ways of teaching reading and the employment of busy work, for the hard grind of learning the alphabet, doing impracticable problems in arithmetic, and the committing to memory of the names and locations of unimportant places in geography which formed so large a part of the work sixty years ago.

Many of the critics who declare our present school system a flat failure, not only forget the broadening influence of the new studies in opening the mind to new ideas and the training of the hand as well as the mind, but they forget the splendid work done at present by our teachers in training children by living examples and by oft-repeated precept in honesty, truthfulness, politeness, obedience, punctuality, perseverance, kindness, frugality, temperance, health, statesmanship and patriotism. Sixty years ago most of this work was done in the homes; to-day it is left almost entirely to the schools.

Has our country gone backwards, grown poorer, or lost its standing in the world during the last sixty years? On the contrary it has come into new prominence and is to-day the envy and wonder of every nation on the face of the earth. This is largely due to its schools, which are without question the best as a whole in any land.

At the same time the most devoted believer in the modern school system is perfectly willing to acknowledge it can be improved in many respects and its results increased in value.

CHARLES F. KING.

Arbitration, to be effective, must assume to settle all disputes. A little can be gained by delay, although we may reason one week and fight the next week. Every hour of peace furnishes so much to the betterment of the races and minimizes the horrors of war and renders them less frequent. We can't settle all differences by means of arbitration, for the one reason that all the nations insist that all disputes affecting their autonomy or their independence shall be excepted. The power of different states to give each to itself its own law will always remain in the state. Nearly all our wars have been fought to obtain independence of government. No patriot will consent to the sacrifice which such a surrender involves.—Representative Thomas S. Butler of Pennsylvania.

WORCESTER BOARD OF TRADE.

BANK BUILDING, 11 FOSTER STREET.

OPEN 8.00 A.M. TO 5 P.M. PRESIDENT'S HOURS: 1 TO 2 P.M. MONDAYS, TUESDAYS, WEDNESDAYS AND FRIDAYS.

PRESIDENT, WILLIAM A. LYTLE. VICE-PRESIDENT, GEORGE F. BOOTH.
TREASURER, H. WARD BATES. SECRETARY, HERBERT M. SAWYER.

Directors.

H. W. GODDARD, WM. A. LYTLE, GEORGE F. BOOTH, F. S. BLANCHARD,
CHARLES L. ALLEN, WM. H. COUGHLIN, IRVING E. COMINS, WILLIAM FORSBERG,
EDGAR REED, GEO. B. BUCKINGHAM, J. RUSSEL MARBLE, CLARENCE W. HOBBS,
JOHN A. SHERMAN, GEO. T. DEWEY, THOS. T. BOOTH, WINTHROP HAMMOND,
PLINY W. WOOD, REGINALD WASHBURN, GEORGE F. BROOKS, JOHN W. HIGGINS.

Clerk of the Corporation, CHAS. PERKINS ADAMS. *Auditor*, CHARLES A. CHASE.

Chairmen of Committees.

Advisory—Rufus B. Fowler. Membership—Herman S. Hastings. Ways and Means—George T. Dewey. Manufactures—Clarence W. Hobbs. Meetings and Receptions—Irving E. Comins. Mercantile Affairs—J. Russel Marble. Transportation and Railroads—Harry W. Goddard. New Enterprises—George F. Booth. Municipal Affairs—George F. Brooks. Taxation and Insurance—Pliny W. Wood. Foreign Trade—Charles L. Allen. Statistics and Information—Reginald Washburn. Arbitration—John W. Higgins. Legislation—George T. Dewey. Publication—Rufus B. Fowler. Education—J. Russel Marble.

The Worcester Board of Trade wants to keep on file at the Secretary's office a complete list of places where floor space can be secured for manufacturing and business purposes. There are calls made every day for such information. The Secretary would appreciate it if every owner of a building in Worcester used for manufacturing or mercantile business would furnish particulars of what he has for renting purposes, and if land-owners would also file a list of available building sites. State owner, location, whether store or factory, amount of floor space, amount of power available and approximate rental. If it is land for manufacturing purposes, state owner, location, number of square feet, general dimensions, any building thereon; if so, give floor space, number stories, brick or wood, power plant with horse power, and purposes last used. Also give name of railroad near it and side-track facilities. Give price that can be used as basis of negotiation.

This information is for the use of the Secretary, and is not to be used for any purpose except to locate new or present business interests. No compensation is to be asked for any lease or rental that may be brought about by the Board of Trade.

The next meeting of the Board of Directors of Worcester Board of Trade takes place on the night of Thursday, September 13. At that time a member of the Membership Committee will be elected to fill the vacancy caused by the resignation of Herman S. Hastings, who has moved to New York to take up his duties as secretary of the National Founders' Association.

Historical.—Worcester will celebrate July 4 this year in the ordinary way of salute and ringing of bells. In addition the City Council has appropriated $1200 for fireworks, and band concerts will be given in several of the parks. In 1806 there was no special observance of the 4th, but in 1805 there was a procession escorted by the Artillery Company, Captain Slater, and the Infantry Company, Captain Flagg. The oration was by Daniel Waldo Lincoln, brother of Gov. Levi Lincoln. The next notice of a special celebration was in 1810, when there was a civic and military celebration with an oration by Levi Heywood.

The principal feature of this year's Fourth of July observance is the unveiling of the statute of Gen. Charles Devens, which is placed in position in front of the Court House. There will be a parade and the unveiling will be at 10.30 o'clock with an address by Gen. Stewart L. Woodford of New York. At the time the plans for raising the money for the Devens statute were made, the Board of Trade took an active interest in the matter and has been prominently identified in the movement.

August Wolf, formerly a Worcester *Telegram* reporter, is now associate editor of the *Journal of Commerce*, published by the Chamber of Commerce of Spokane, Wash. He is also editor of *Mines and Lumber*, a trade publication of that city.

At the meeting of the Directors of Worcester Board of Trade June 14, the following resolution was unanimously adopted on motion of Mr. Irving E. Comins, who introduced it:

Resolved—That the Board of Directors of the Worcester Board of Trade learn with regret of the transfer from Worcester of Mr. Charles Firth, agent of the Boston & Albany Division of the New York Central & Hudson River Railroad.

Resolved—That the Board of Directors acknowledge with grateful appreciation the assistance Mr. Firth has been to the Board of Trade in all matters of transportation connected with his company.

Resolved—That the Board of Directors congratulate Mr. Firth upon his promotion and extend to him the best wishes of the Board of Trade in his new duties.

Resolved—That a copy of these resolutions be forwarded to Mr. Firth and that they be made a part of the records of the Board.

Representative Elmer C. Potter of Worcester has occupied the Speaker's chair considerable of the time during the latter part of the session, during the sickness of Speaker John N. Cole, and later during the debate on the report of the Committee on Rules which recommended the expulsion from the body of Representative Gethro of Boston.

Work on the new electrical engineering laboratories at the Worcester Polytechnic Institute has commenced. This building is to cost approximately $125,000 and is to be built by the Central Building Co. of Worcester, one of the most widely known contractors in Central Massachusetts. The plans for the building were made by Peabody & Stearns of Boston, with Prof. A. W. French, of the Tech faculty, as consulting engineer, and he will serve as superintendent of construction during the entire erection of the building. A plan of the buildings, with details, was published in the June MAGAZINE.

The Arcade Malleable Iron Co., the business of which was conducted by Mr. George B. Buckingham up to the time of his death early in June, will be conducted by a company of which Mrs. Abbie Buckingham is President and Treasurer, and H. Paul Buckingham, Secretary.

The Worcester Master Builders' Association has endorsed Albert B. Murdough of Waltham as a member of the proposed Industrial Commission which Gov. Guild is to appoint under the act providing for industrial education.

The Legislature of 1906 has made an important amendment of the law relative to the assignments of wages. The matter is of sufficient importance to warrant a careful reading of its provisions, which are given in full below:

Section 1. No assignment of future wages shall be valid for a period exceeding two years from the date thereof, nor unless made to secure a debt contracted prior to or simultaneously with the execution of said assignment, nor unless executed in writing in the standard form herein set forth and signed by the assignor in person and not by attorney, nor unless such assignment state the date of its execution, the money or the money value of goods actually furnished by the assignee and the rate of interest, if any, to be paid thereon.

Section 2. No such assignment shall be valid unless a copy thereof is delivered to the assignor by the assignee at the date of the execution of such assignment. No such assignment shall be binding upon the employer of the assignor until a copy of the assignment and an account, which conform to the requirements hereinafter stated, have been delivered to said employer. Said account shall be in writing and shall contain a statement of the balance due and of the sums of money received by the assignee, together with the date of every such payment and a statement as to whether such payment is interest, a payment on the principal, or, in case, of a loan, a payment on the charge for making and securing the loan.

Section 3. The term "assignment," as used in this act, shall include every instrument purporting to transfer an interest in or an authority to collect the future wages of a person.

There will be parties of course, two great ones, as there are now, and the voters will divide as issues arise. I have no fear of socialism. It appears to me that a Socialist invariably sinks lower and lower until he becomes an anarchist. An anarchist, however, never goes upward into socialism. In my judgment it would be impossible for the government to operate the 230,000 miles of railway in this country. Where there are a thousand employees, there would be five thousand under socialism. I think, however, that every municipality should control its water supply, but I am unwilling to go further.—Senator William P. Frye.

THE WORCESTER MAGAZINE

Vol. IX. AUGUST--1906 No. 8.

Magazine and Municipal Comment.
General Devens' Statue Unveiled.
Medical Inspection in Public Schools.
Loring Coes—Veteran Manufacturer.
Worcester's Future Water Supply.
Board of Trade Notes.

DEVOTED TO

Good Citizenship and Municipal Development

PUBLISHED MONTHLY BY THE BOARD OF TRADE
WORCESTER, MASSACHUSETTS,
U. S. A.

$1.00 A YEAR. 10 CENTS A COPY

CENTRAL SUPPLY CO.

Steam and Gas Supplies

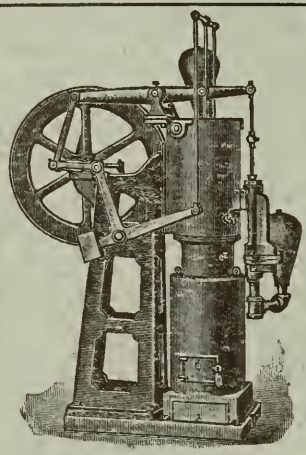
Wholesale and Retail

Wrought Steel
Cast Iron
and Brass

PIPE

All Weights
and Sizes
1-8 to 24 in.

Automatic Sprinklers
Brass *and* Iron Fittings
Tanks
Inspirators
Injectors
Traps
Hand *and* Power Pumps



Ericsson Hot Air Engines

Oil Filters
Wind Engines
Brass *and* Iron Valves
Towers
Pipe Tools
Railing Fittings
Pipe Covering
Hose, Etc.

The Leading Makes of

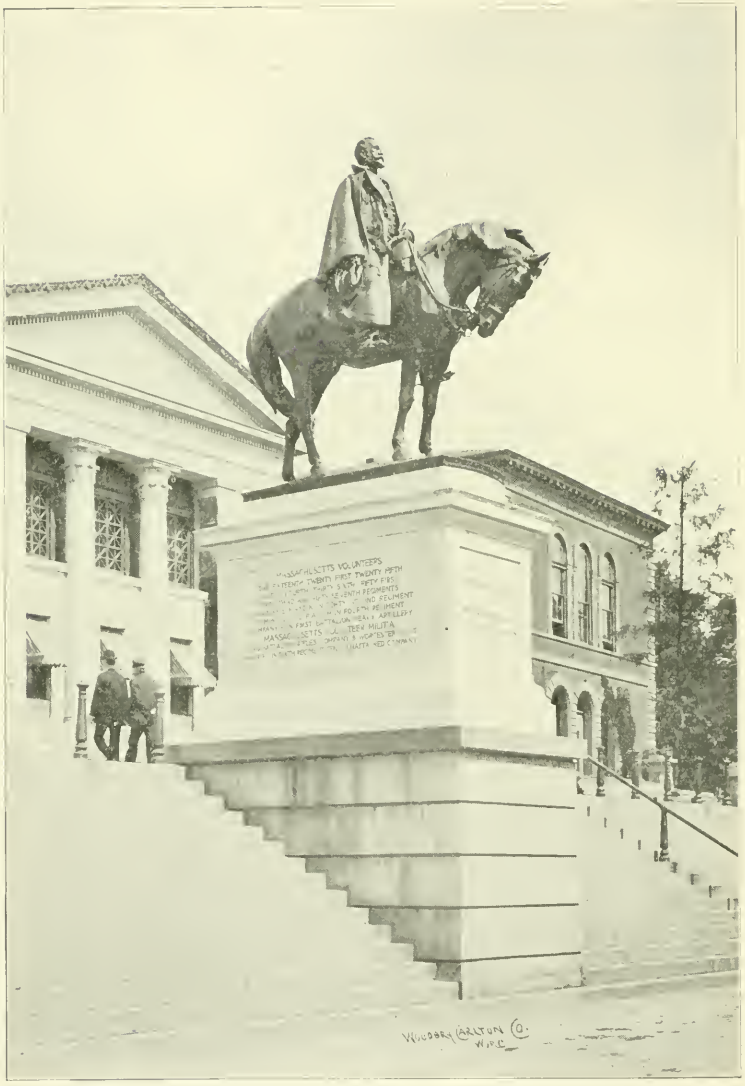
Steam and Hot Water Heaters

Radiators of all kinds and sizes

Send us your address and receive estimate (free) from responsible fitter for heating your home, store or factory.

Pipe cut to sketch. Complete Steam, Automatic Sprinkler and Heating Outfits. Pumps and Pumping Appliances of every description.

35 and 37 Waldo Street
WORCESTER, MASSACHUSETTS



GEN. CHARLES DEVENS' STATUE, UNVEILED JULY 4.

The Worcester Magazine.

VOL. IX. AUGUST, 1906. NO. 8.

This magazine is published by the Worcester Board of Trade. Its reading pages are devoted solely to municipal development, good citizenship and the business welfare of Worcester. Space in these pages is not for sale.

MAGAZINE AND MUNICIPAL COMMENT.

Honor to Soldier and Jurist

Worcester's Fourth of July was given up to doing honor to the memory of one of her heroes—General Charles Devens—soldier and jurist. A bronze equestrian statue of the honored citizen was unveiled in front of the Court House in the presence of the greatest number of Worcester County Civil War veterans Worcester will ever greet. The history of General Devens is interesting. It is the history of a hero. While trying a case before the Superior Court the news came of the fall of Sumter, and turning his client's interest over to a brother lawyer he immediately offered his services to his country and marched to the front as a Major. Bravery on field of battle while wounded won for him the star of a Brigadier-general, and it was he who led the forces into Richmond. From Military Governor he returned to his home and later occupied a seat on the Supreme Bench of Massachusetts courts, and during President Hayes' administration was Attorney-general of the United States. Worcester received him half a century ago as a young lawyer; Worcester sent him to the war in a major's uniform, and here he was laid to rest after an honorable life. As General Devens honored Worcester, so now does Worcester do honor to its illustrious citizen and brave soldier.

Clark University in Carnegie List

Clark University is included in the provisional list of colleges and universities which are to be admitted to the benefit of the Carnegie foundation for the advancement of teaching.

All institutions having formal denominational connections, or which require their trustees or officers to belong to a specified denomination, have been omitted from the list, as have all institutions controlled and supported by a state, province or municipality. In addition to these there also have been omitted from the list all institutions which fall below the academic standard which the trustees have adopted.

President G. Stanley Hall of the university says the Carnegie plan is a grand good thing and a godsend to everybody. The gift is for pensioning teachers, and Clark University will feel the benefits of the fund in several ways. Clark has no teachers it desires to place upon the pension list, but the university is on the list and in position to take advantage of the pension fund when it is desired to apply for it.

The chief way in which the university has felt the Carnegie gift, up to this time, is that it has opened up the way for more appointments for graduates than could be supplied.

"It will be a great easing up among faculties," says Dr. Hall. "The men

will feel more content to continue in their positions, teaching for what they know is really less than they ought to be paid, but which they also know is about all the school can afford. Their old age will be provided for in case they see fit to make use of the fund.''

Invented the Monkey-wrench

Of the long list of names of manufacturers who have given Worcester a world-wide reputation, none is more prominent than Loring Coes', whose death took place recently. Mr. Coes was prominent for several important reasons. He was presumed to be the oldest manufacturer in the country actively engaged in business, and this being true, the oldest in the world; he invented and for many years manufactured the so-called monkey-wrench; he was actively engaged in manufacturing seventy years; he had worked as apprentice, journeyman and manufacturer eighty-one years; he was the oldest fisherman who visited the Maine lakes—a record of forty-seven trips.

At the time of his death, Mr. Coes was president and treasurer of the Coes Wrench Company and Loring Coes & Company, wrench and blade manufacturers.

Mr. Coes was 94 years old. For a man who had reached such an advanced age he possessed an ability seldom equaled by a man of so many years. Until his attack of illness a few months ago, he was in comparatively good health and was engaged actively in the transaction of a considerable business. He was one of the striking figures in Worcester. Time had not diminished his vigor or his interest in manufactures. He is known as one of the remarkable business men in the East. There were very few men of his advanced age capable of attending to the cares and concerns of business life in the manner which has distinguished him.

Mr. Coes furnished an instance of what simple, abstemious living can do when combined with a vigorous constitution. His faculties were unimpaired and his business judgment was excellent. He was one of the survivors of the men who gave Worcester its great impetus as a manufacturing centre, such as Ichabod Washburn, Charles Crompton and William T. Merrifield, who took active part in the industrial organization of Worcester during its earlier years.

Keeping in close touch with his business was practiced by Mr. Coes. There are few men of any age who keep closer to their business than did this typical American business man and manufacturer, and the result has been just what might be expected with such a man at the head of a business. Prosperity has been his, and his business has kept up to a point which is the envy of his competitors.

Provided for Marked Improvements

The City Council took a long step in the direction of public improvements before adjournment for vacation. There undoubtedly will be some complaint from various quarters because of so-called extravagance, but legitimate improvements cannot be made without expending some money. A new police station, a school-house addition, new pavements that unquestionably are needed, widening of another section of Shrewsbury Street, filter beds and a new sewage pumping station for one of the suburban sections, mean the extraordinary expenditure of upward of $300,000. This is unusual for a Worcester City Council to rush through without lengthy argument, but it was done and it is all for the benefit of a greater Worcester. The new police station, the plans having been pawed over until they are nearly worn out, is the only doubtful piece of legislation. Orders provide for paving Southbridge Street between Madison and Hammond streets at an estimated cost of $12,000, also for paving Millbury Street, between Sigel and Ballard streets, at an estimated expense of $10,000. One of the most important orders provides for a loan of $126,000 to widen Shrewsbury Street, from East Central to Adams Street, where it will join the present widened thoroughfare. New filter beds are provided for the Quinsigamond plant at an

estimated expense of $20,000 and $8,000 is appropriated for a new sewage pumping station at the lake.

Worcester Did its Part

In removing the internal revenue tax on denatured alcohol for industrial purposes, America has taken her place among the manufacturing nations in the encouragement of industry. Free industrial alcohol has been an important factor in the development of the chemical industries of Germany, in the invention and extended use in Germany, France and other European countries, of many devices for heating, lighting and for furnishing power, and in nearly all manufacturing countries it has been a boon to the chemical, paint, powder, photographic, furniture, hat, electrical insulation and numerous other industries. While the field of usefulness of denatured grain alcohol is wide, the best results will probably be attained in its use as a fuel for small power motors, for heat and light, a field in which it has already won considerable recognition in other manufacturing countries. Worcester and American manufacturers along these lines have only been awaiting the freeing of this fuel of tax to perfect and place on the market many appliances which have been built and tested in laboratories.

First Swim, then Paddle

The annual series of fatal canoe accidents has begun and may be expected to pile up as appalling a record of carelessly thrown away lives as every season furnishes. Why young people will persist in courting death in this manner is one of the unanswerable questions; that they will is enough, and the facts demonstrate it. The canoe, one of the most delightful of water craft, is also the most treacherous. Young people who intend to use canoes should acquire the ability to swim, if they have it not already. In case the ability is lacking every precaution should be used while in the canoe and no chances should be taken. This care, of course, is advisable whether the canoeist is able to swim or not, though the necessity of care by those ignorant of swimming is more apparent. The dangers of canoeing are of a sort not to impress the average young person, and no recital of the list of fatalities will make any impression upon them. The appeal of the canoe is stronger than the realization of danger, and it is not remarkable that this is so. The best measure of caution is to learn to swim; parents might do well to encourage their children to acquire the ability early in life, when learning is easy and attended with no danger if properly undertaken and safeguarded And to make the lessons of practical worth there should be added the ability to swim with one's clothing on—a vastly different matter from swimming clad only in bathing costume.

Gave His Country Pure Food

The death of Henry D. Perky at his home in Oread, Md., a few weeks ago, removes from the field of activity one of the most unique personages in industrial and educational America. An inventor, an idealist, an original advertiser and a natural food enthusiast, he inaugurated a business that led to his financial downfall, but made others wealthy. Under Mr. Perky's persistent and unique advertising method, shredded wheat was given world-wide advertising and assisted in making famous Worcester. So wide famed did the name shredded wheat become that natural foods along the same lines were manufactured until the country was flooded by wheat products of every description, every one of which was prompted by Mr. Perky's original idea. It is regretted that Worcester did not show sufficient confidence in this man and prevented the removal of his business to Niagara Falls, where it is still flourishing and prospering.

From shredded wheat Mr. Perky went to domestic science in cooking lines, established a national school of domestic science at the Oread, at which free scholarships were granted each state in the Union. Here teaching along natural food lines was carried on, and the Oread, of itself an institution of national reputation, was given addi-

tional prominence through Mr. Perky's ideas and enterprise. Then came the greater Oread at Glencoe Station, just outside Baltimore, in Maryland. It was here Mr. Perky planned the development of domestic science along more elaborate lines, but financial troubles temporarily checked the work, and just as it was begun again in earnest, death ended all plans this remarkable man had made. Had he lived it would have been interesting to watch to what length Mr. Perky would have gone in his original domestic science ideas. He had no desire to accumulate a fortune for his personal use, but used vast amounts of money in foreign travel to study food conditions. He was not selfish. He had a great idea, and his object in the accumulation of funds was for the development of this idea. His object was not fully attained, and now lawyers, forgetful of the work in the past of this man, are figuring out his assets, and speculation is going on as to the future of Oread in Worcester and the newer Oread in Maryland. If Mr. Perky was not a successful financial man he gave the country an invented cereal product that at least was pure and healthful. This much to his credit, anyway.

Keep Vacant Lots Clean

There are plenty of examples to be found in the best residence sections of vacant lots covered with weeds and rubbish, whose sidewalks are almost obliterated with dirt and leaves, surrounded by trees that need trimming to such an extent that the pedestrian is compelled to go into the street to get past. Yet these dirty lots are surrounded by handsome residences with well-kept lawns and beautiful flower beds, upon which the owner bestows much attention and no little financial outlay. Now is it not a most surprising thing that the people who keep up their own places, so that they may enjoy the sight of them, are willing to look out of their side windows upon vacant property that is an eyesore and a disgrace to the neighborhood? Of course, theoretically, the owner of the property should take care of it, but he lives in Chicago or is away in Europe, or perhaps residing in another part of the city, cares nothing about this particular neighborhood. Experience has shown that the owner will not clear it up—what then? Is it to be allowed to go dirty and scatter the seeds from the dried weeds all over the neighborhood and offend the eye of every one who passes or who lives within sight of it? Strange, is it not, that these owners of fine places, nearly all of whom keep gardeners, and to whom a matter of five or ten dollars spent on their own grounds is a small consideration, will not order their help to put in a day or two twice a year on the nearest vacant lot needing attention? In rare instances this is done, but it is quite the exception.

The summer vacation is now on, and the city is full of boys from nine to fifteen years of age, who will be lolling around wondering what to do next. If only one per cent of the superfluous energy of the boy-at-home-on-vacation was put into cleaning vacant lots, our residence sections would soon be entirely cleared of weeds and rubbish.

Graphic Story of a Vacation

Purling and wimpling waves, dancing spray, moonlight drives, pebbly beaches, grand old trees, pleasant acquaintances, beautiful residences, miles and miles of summer cottages, craggy bluffs, toilsome climbs up lighthouse steps, banquets, fetes, trolley rides, tin pan processions, the long, slow swell of the ocean wave, with the joy of treading once again upon the solid earth, walks upon the sands and chats upon the piazzas, and,—why, more banquets and more trolley rides, a whole week of them,—and the whole blended together by sufficient exposure to the fresh sea air and spiced with a dash of piquancy and flavored with care-free, joyous spirits,—this in detail is the story of the vacationist. The rest idea—to get away from business cares—to lay down the daily routine for a week or a fortnight—or better, a month. And what refreshing hours—health-giving air, strength-

ening conditions are suggested in the above graphic paragraph which tells the whole story of a vacation at the seashore.

Medical Inspection in Public Schools

One of the most important bills passed by the Legislature was House Bill 748, providing for medical inspection in the public schools. It might be called a bill for shutting the stable door before the horse is stolen. It provides for two things:

First. Prompt medical inspection of all children in the public schools who show signs of being in ill health, the exclusion of those having serious infectious disease, and notification of parents in all cases needing treatment.

Second. Annual inspection of all children in the public schools for the detection of defects of sight and hearing and of other disabilities or defects tending to prevent their receiving the full benefit of their school work, or requiring a modification of the school work in order to prevent injury to the children, or to secure the best educational results; and the notification of parents in the case of such disabilities.

The importance of medical inspection as a means of preventing disease is barely obvious. In another part of this month's Magazine appears an article written by an authority on the subject of medical inspection. Boston was the first city in the country to introduce it and it is now a custom in many cities. Worcester has endeavored to get an appropriation for the work, but the City Council has not looked on the proposition with favor.

The question is not merely one of doing the children good; it is a question of saving ourselves from the reproach of doing them harm. It is the universal testimony of specialists that nervous troubles and defects of sight increase very much with the school work and as a consequence of it. Children are obliged by law to go to school. When they get there, many of them receive very great and lasting harm purely as result of the work that we oblige them to do—harm that would be entirely prevented by the examinations required in this bill and the modification of the school work that would follow from them. If we force children to go to school, are we not absolutely bound to see that they shall not be subjected to unnecessary danger either of infectious disease or of permanent physical or moral injury?

The Uses of Green Hill Mansion

The Green Hill Mansion is being put to a practical and humane use. Sufficiently large and roomy, plans for its use have been made by the Park Commissioners in detail—the result of careful consideration. A summer hospital for babies, a home for convalescing mothers and a headquarters for special work by the Natural History Society are the purposes for which provision has been made. A more ideal spot for the care of sick children cannot be imagined, and during the heated period there is no more comfortable section than Green Hill. Miss Rachel A. Metcalfe, with the experience of Worcester City Hospital training, where she for several years was superintendent of nurses, is in charge and has a corps of competent nurses. Prominent physicians are identified with the work of the home for convalescents.

Take it all in all, with the location and surrounding, and a willing public spirit, Green Hill Park and Mansion are additions to the city's breathing spots and benevolences that warrant and deserve the largest feeling for thankfulness the people can give.

Trial by Newspapers

Among the evils that ought to be eradicated is the bacterial nuisance of trial by newspapers. Several instances have occurred within a few years where newspapers have undertaken to convict and to punish suspects, or acquit and free them as if they were proved to be guilty or not guilty. The substitution of *ex-parte* statements of reporters out for a sensation and therefore ready to overdo the detective act, for trial by jury ought to be resented. Newspaper publicity may and does contribute to

the detection of crime. Officers of the law are frequently too shy of newspaper publicity and thus arrest detection and punishment. But it is the clear duty of the newspaper to exhaust sources of information and to make sure when it makes a statement against a man who is suspected or under arrest, that it gives the other side equal and simultaneous opportunity to deny or to explain so far as the facts are justified. Just now there is an evident newspaper trial going on in the case of a New York murderer. The trial by newspaper was first a well elaborated condemnation of the murdered man and partial justification of the murderer. A second trial by newspaper has been in process which reverses and gives the murderer little justification. Now specialists in insanity. A generous pocketbook proves a great deal. There is no question that the New York man is insane, as any jealous man is mentally out of poise. A man is responsible for harboring the devil of jealousy. By and by there will be no deviltry—only insanity. The devil and all his imps were morally insane when they started out.

Development of Playground Idea

The playground idea is being developed for the benefit of school children during vacation, in ways which appeal to the scientific mind. It is proposed that in these playgrounds there shall be such kindergarten games as shall be instructive and constructive rather than like football, largely for the cultivation of the belligerent temperament. Perhaps the best educational game, after all, is baseball, which nourishes the fine article of competition in the top of the head as well as in the nerves distributed from the skull into the limbs. It is hoped that there will yet be vacation industries for children. If child labor is to be cut out in the mills and in other places during the school term, as it certainly should be done, there must be care not to go to the other extreme under which children fail seriously to take anything but play. To ally play and work, that is, to make work so agreeable and so in harmony with play as to convert work into the best form of play, is the scientific idea. Child-life can be made profitable to the family and to society only by making it profitable to the child's moral, physical and mental development. But our present tendency is to overdo play on the false score that nothing is play except that which is non-productive. Let us get into the better game of joyous work!

Commission for Trade Schools

Governor Guild has the power, created by the Legislature of 1906, to appoint a commission of five persons, to be known as the Commission of Industrial Education, to serve for a term of five years and without pay. The commission shall be charged with the duty of extending the investigation of methods of industrial training and of local needs, and it shall advise and aid in the introduction of industrial education in the independent schools.

There are many things in connection with the subject which this commission has the power to do. Why cannot Worcester have a representative on this commission, and why cannot Worcester have a trade school?

Despite the very strong protest of organized labor, trade schools of some sort will be started in the United States, and once started they will have come to stay. In fact, organized labor will be wise if, instead of trying to oppose all trade schools, the effort is made to make sure that every poor workman gets the benefit of such training.

In Europe, of course, the trade school idea is growing rapidly and has long since justified its existence. The rapid strides which Germany has taken industrially in the past ten years is known to be due to the trade school system, and the plan has worked so well that the Kaiser is doing all in his power to make the trade school one of the leading features of the German national life.

Whether the State has any right to interfere with apprentice systems in the different industries, is at best doubtful. But the State has the right to establish trade schools, and the more quickly this comes about, the higher will be the standard of labor in Massachusetts.

GENERAL DEVENS' STATUE UNVEILED.

CHARLES DEVENS — Born in Charlestown, Mass., April 4, 1820; attended Boston Latin School and graduated from Harvard College in class of 1838; studied law and admitted to the bar in 1840, and practiced law for several years in Northampton and Greenfield. In 1848 and 1849 he was in the State Senate from Franklin County, and while a resident of that county was a Brigadier-general in the State Militia.

In 1849 he was appointed United States Marshal by President Taylor, a position he held until 1853.

General Devens came to Worcester in 1854, and entered into law partnership with George F. Hoar and J. Henry Hill. He was City Solicitor in 1856, 1857 and 1858. When Fort Sumter was fired upon and surrendered, General Devens was engaged in the trial of a case before the Superior Court. He turned over his case to a brother attorney and immediately offered his services to the government.

The day that General Devens offered his services to the government, he was unanimously chosen Major of the Third Battalion, Massachusetts Rifles, received his commission the following day, April 19th, and left for the seat of war April 20th, 1861. At Fort Henry he was appointed Colonel of the Fifteenth Massachusetts Volunteers, and was wounded at Ball's Bluff. For his conduct at this battle he was promoted to Brigadier-general, and he was assigned to the command of a brigade in Couch's division of the Fortieth Army Corps. He was severely wounded during the close of the war, but with other officers reformed the broken line and held the field until the arrival of reinforcements. General Newton, in his official report of the battle of Fredericksburg, paid a tribute to the Massachusetts officer when he said: "My acknowledgments are due to all according to their opportunities, but especially to Brigadier-general Charles Devens, who commanded the advance and rear guard in the crossing and recrossing of the river." In 1863 General Devens was given command of a division of the Eleventh Army Corps, and two days after the battle of Cold Harbor he was taken from the field on a stretcher, severely suffering from rheumatism. April 3d, 1865, General Devens led the advance into Richmond, where he was Military Governor after the surrender. He was later second in command to General Daniel Sickles, in the southeastern department. He declined a commission in the Regular Army.

General Devens returned to Worcester in 1866 and continued his partnership with George F. Hoar until he was appointed a Justice of the Superior Court in April, 1867. In 1873 he was elevated to the Supreme Court of Massachusetts. When President Hayes was inaugurated he offered the position of Secretary of War to General Devens. He hesitated in the acceptance of the portfolio, but later accepted the Attorney-generalship, which he held until the close of President Hayes' term. He was then again made a Justice of the Supreme Court of Massachusetts. This was in March, 1881, and he held the position until his death.

General Devens was a member of the American Antiquarian Society, Massachusetts Historical Society and he received the degree of LL.D. from Harvard in 1877. He was President of the Harvard Alumni Association a second time in 1886, so that he might preside at the celebration of the 250th anniversary of the foundation of the college. He died January 7th, 1891.

The above is a brief sketch of the life of the gallant leader of the Fifteenth Massachusetts Regiment, a bronze equestrian statue of whom was unveiled in front of the Worcester County Court House on the morning of July 4th. Hundreds of men who followed General Devens over battlefields, whose records are a part of the history of the world's

wars, marched in a parade which never will be repeated, and listened to addresses which showed the reverence in which the name of Devens is held by men who fought with him, who worked with him in war and in peace, and who were associated with him in all that goes to make up American citizenship. The statue of General Devens stands as a monument to the citizen soldiers of Worcester County. Surviving soldiers of the Civil War who carried over the southern battlefields recollections of the homes and hearths on the hills of Worcester sat with memories of their commander surging through their minds as they listened to words of eulogy of his character and his valor, which made him the ideal of men who were glad to be his followers in the cause of the Union —whom he honored in his life as they now have honored him in memory.

Previous to the unveiling of the statue there was a parade from City Hall to the Court House, the Chief Marshal of which was Major Edward T. Raymond, with Captain Charles H. Pinkham chief of staff. Lieutenant-colonel Harry B. Fairbanks of the Second Massachusetts Regiment was in command of the First Division, composed of Worcester militia companies, and General Charles W. Wood was in command of the Second Division, comprising Worcester County Grand Army posts and the remnant of the old Fifteenth Massachusetts Regiment. There were 140 men in line in the Fifteenth Regiment—the Devens regiment—which was commanded by General John W. Kimball of Fitchburg. The colors carried during the war by Colonel Henry E. Smith of Worcester were again carried by him in the parade, being received from Mayor John T. Duggan at City Hall, where they are permanently kept. There were 190 men in the Devens Brigade, Colonel M. W. Taylor of Plainfield, N. J., commanding. The Fifteenth Regiment and Devens' Brigade led the Second Division of the parade, in which were twenty-one Worcester County Grand Army posts, including Colonel George H. Ward Post of Worcester, the largest in the country.

At the Court House there was a large crowd and many distinguished men were in the speakers' stand, including Secretary of War William H. Taft, Governor Curtis Guild, Jr., Lieutenant-governor Eben S. Draper, General William F. Draper, General Stewart L. Woodford of New York, and upwards of fifty other prominent guests from various sections of the country.

The programme at the statue was:

I. Music.
II. Introductory, Gen. Wm. F. Draper.
III. Prayer, Rev. Daniel Merriman, D.D.
IV. Greetings from the Commonwealth, His Excellency Gov. Curtis Guild, Jr.
V. Presentation of the Memorial and Statue to Worcester County, Gen. Wm. F. Draper.
VI. Unveiling of the Memorial and Statue, Mr. Charles Devens Osborne, grand nephew of General Devens.
VII. Acceptance of the Memorial and Statue for Worcester County, Warren Goodale, Esq., county commissioner.
VIII. Oration, Gen. Stewart L. Woodford, LL.D., New York.
IX. Singing, Two stanzas, "America."

The following abstracts are of addresses made at the unveiling:

Governor Curtis Guild, Jr.:

"I bring you the greetings of the Commonwealth. This statue of a soldier is appropriately placed before a temple of justice. The motto of Massachusetts, as placed beneath the arms of the Commonwealth, declares that in the maintenance of peace, order and liberty, Massachusetts does not hesitate to draw the sword. Such is the spirit of Massachusetts. Such was the life of Devens. A marshal in the times when the odious fugitive slave act was law, he executed the law as he found it; and then not only rescued the unhappy victim, Thomas Sims, from slavery, but, as Attorney-general, secured him employment in the department of justice. A man of peace, he did not hesitate to do his stern duty in time of war. A minute man of '61, commissioned on the historic 19th of April in that year, wounded at Ball's Bluff and at Fair Oaks, promoted and brevetted for conspicuous gallantry, his division was the first to occupy the Confederate capital,

where the first duty of the victorious troops was the extinguishing of fires and the relief of suffering. Massachusetts Senator, Justice of our Superior Court, Justice of our Supreme Court, Attorney-general of the United States, he embodied the intelligent courage in defense of ordered liberty under the law, which is the corner-stone of any durable republic. In him Massachusetts salutes a son who gave in peace his labor and in war his blood to prove the truth of the noble words that might well grace his monument as well as the entrance to your courts: 'Obedience to law is liberty.' "

General William F. Draper, in making formal presentation:

"The duty of presenting this statue to the Board of County Commissioners has been assigned to me by the committee. Before doing so formally, I will briefly recapitulate the history of the movement which has resulted in this beautiful memorial. In 1892, a meeting of prominent gentlemen was called at the Worcester Club, at the suggestion of our honored Senator, George F. Hoar, to consider the erection of a monument to General Charles Devens. A committee was appointed to raise funds, but owing to questions of location, a sufficient amount was not realized at that time. In 1902, again at the request of Senator Hoar, an act of the Legislature was passed authorizing cities and towns of this county to contribute money for erecting in front of the County Courthouse a monument in memory of the patriotism and valor of the men of Worcester County who served in the War for the Union; the monument to be surmounted by a bronze equestrian statue of the late Major-general and Judge, Charles Devens. The original commission under this act was George F. Hoar, J. Evarts Greene, Herbert Parker, Nathaniel Paine, Emerson Stone, Rufus B. Dodge, Daniel Merriman and Edward J. Russell.

"The commission has met with the loss of three members by death: Senator Hoar, whose place has been filled by the election of General William F. Draper; J. Evarts Greene, whose place has been filled by the election of Major Edward T. Raymond; Emerson Stone, whose place has been filled by the election of George W. Cook.

"The County of Worcester gave $5000 toward the cost of the monument; the city of Worcester $7500, and a majority of the towns of the county have contributed. Large sums have also been given by prominent residents of the county and elsewhere, and smaller contributions from thousands of citizens have swelled the total.

"When a sum large enough to warrant a beginning was raised, contracts were made with Messrs. D. C. French and E. C. Potter for $30,000 for the statue, and with George D. Webb for the base, at about $5800. Other necessary expenses will bring the total to about $40,000.

"The undertaking was a great one, and could never have succeeded without the personal initiative of Senator Hoar. His interest was so great in the work that during his final sickness, when confined to his bed in great pain, he sent for some of the commission to talk over the details of the statue. He said to me personally, when the question of funds was under consideration, that if enough could not be raised otherwise, he would mortgage his house to make up the deficiency.

"Now, Mr. Chairman, and gentlemen of the Board, I have the honor of presenting to you, in the name of the commission, this monument to the patriotism and devotion of our Worcester County volunteers in the War for the Union, as exemplified by the high military and civic qualities of the hero whose statue it bears—General Devens."

Mr. Goodale, in accepting statue and memorial:

"Mr. President and Members of the Worcester County Memorial Statue Commission: Your work has been done well, you honor Worcester County today and you honor her own; the gift you bring to-day in remembrance of him, a leader, a scholar, a jurist and of those in numbers inscribed thereon, who responded to the call to arms in 1861 from every city and town throughout the county, is accepted by a grate-

ful and loving community; in no place more fitting than here in the heart of the county could it stand an inspiration for future generations, a lasting memorial until the devouring hand of time shall have done its work. This memorial we dedicate to-day, chiseled in stone and wrought in bronze, bears testimony of a grateful people. Every city and town throughout the county gave willingly of its best to the cause of freedom, and their gift of boys who wore the blue and carried musket or sword, stands for all time recorded here to-day. And now, Mr. President and members of your commission, on behalf of Worcester County, as its representative, I accept this beautiful memorial."

General Stewart L. Woodford:

"The summer rains have fallen like a benediction on the monument we dedicate to-day. They have made the earth green and glad. They will return in harvest and in fruitage, and so the memory and the influence of the leader and the soldiers to whom we dedicate this monument will return in the harvest of better living and higher citizenship of a stronger and more enduring union.

"It is a personal privilege and duty to have accepted this generous invitation. For a little time I served in the same army corps, the old Eleventh. It fell to my lot to be the Military Governor at Charleston before General Devens came to assume that command. For four years I served under his wise leadership when he was Attorney-general of the United States, and until his death. I am grateful that I was honored by his friendship."

Following his service during the war and his service in President Hayes' Cabinet, General Woodford said:

"He returned to Massachusetts. Governor Long reappointed him Judge of the Supreme Court in 1881. For ten years he served in that high place, bearing the dignity of his citizenship, beloved by the people of his Commonwealth. He was honored by the citizens of the nation, and at last, in January, 1891, he fell asleep among those whom he served and those he loved.

"How shall I venture to sum up the life, the worth, the character of this man? He was a citizen in all that citizenship implies. He was a jurist in the largest and best sense of the word; a wise, a broad, a great lawyer; an orator whose matchless eloquence still lingers in our memory, but above all, Charles Devens was the citizen-soldier and the soldier-gentleman.

"Like Bayard, he was without fear and without reproach; simple and dignified, fitted for the highest positions. Standing as advocate before the Supreme Court of the United States at Washington, mingling with courtiers, diplomats and soldiers, he was always a man whom any drummer boy in his regiment could go to for sympathy and love.

"Could Charles Devens be with us in the flesh to-day, as I believe he is in the spirit, he would be glad, yes, grateful, that the monument that Worcester rears is not only for him, but for every Worcester County soldier, whatever his rank or service.

"For what did you men fight? Not for glory, not that names like Marengo and Wagram could be written on your flags. You fought that the nation might be kept intact, that liberty might go with the flag wherever it goes over land or sea.

"We have saved the nation, we have kept the flag. Our children must keep all that we have won. Corrupt as politics sometimes may be, unjust as wealth sometimes is, wrong as corporations sometimes may be, still, on the birthday of the nation and in the presence of that heroic statue faced toward Bunker Hill, I believe and you believe that this nation under the law and guided by God is secure.

"To-day memories of the past are crowding on us. In that bronze eye comes a light. The old shadowy flags are bending above us. Comrades, living and dead, are touching elbows here to-day. Let us highly resolve that we and our children do our duty in years to come.

"May we keep the land of Puritan and Pilgrim and the Commonwealth of Plymouth Rock, of Bunker Hill, of Lexington and Concord, and may God keep the nation for centuries yet unborn."

MEDICAL INSPECTION IN THE PUBLIC SCHOOLS.

THE bill for medical inspection in the public schools has become a law. It provides:—

A. That the School Committee of every city and town shall appoint a school physician for every public school (the same physician, of course, can be assigned to several schools), and shall provide that every child who seems to be in ill health, or who returns to school without a doctor's certificate after absence on account of disease or from an unknown cause, shall be promptly seen by the school physician.

Section 1. The School Committee of every city and town in the Commonwealth shall appoint one or more school physicians, assign one to each public school within its city or town, and provide them with all proper facilities for the performance of their duties as prescribed in this act: *provided, however,* that in cities wherein the board of health is already maintaining or shall hereafter maintain substantially such medical inspection as this act requires, the Board of Health shall appoint and assign the school physician.

Sec. 2. Each school physician shall make a prompt examination and diagnosis of all children referred to him as hereinafter provided, and such further examination of teachers, janitors and school buildings as in his opinion the protection of the health of the pupils may require.

Sec. 3. The School Committee shall cause to be referred to a school physician for examination and diagnosis every child returning to school without a certificate from the board of health after absence on account of illness or from unknown cause; and every child in the schools under its jurisdiction who shows signs of being in ill health or of suffering from infectious or contagious disease, unless he is at once excluded from school by the teacher; except that in the case of schools in remote and isolated situations the School Committee may make such other arrangements as may best carry out the purposes of this act.

Sec. 4. The School Committee shall cause notice of the disease or defects, if any, from which any child is found to be suffering to be sent to his parent or guardian. Whenever a child shows symptoms of small-pox, scarlet fever, measles, chickenpox, tuberculosis, diphtheria or influenza, tonsilitis, whooping cough, mumps, scabies or trachoma, he shall be sent home immediately or as soon as safe and proper conveyance can be found, and the Board of Health shall at once be notified.

B. That the sight and hearing of all children in the public schools shall be annually tested by the teachers.

Sec. 5. The School Committee of every city and town shall cause every child in the public schools to be separately and carefully tested and examined at least once in every school year so as to ascertain whether he is suffering from defective sight or hearing or from any other disability or defect tending to prevent his receiving the full benefit of his school work, or requiring a modification of the school work in order to prevent injury to the child or to secure the best educational results. The test of sight and hearing shall be made by teachers. The committee shall cause notice of any defect or disability requiring treatment to be sent to the parent or guardian of the child, and shall require a physical record of each child to be kept in such form as the State Board of Education shall prescribe.

Section 7 provides that no expense can be incurred by any city or town until an appropriation for the purpose has been made. The tests of sight and hearing, however, will involve no expense to the city or town, inasmuch as they are to be made by the teachers and the blanks and materials for making them are to be supplied by the State Board of Education.

There are, accordingly, three things to be done by those who are interested

in seeing this most important measure made effective:—

1. To interest your local School Committee in the whole subject in order that it may not only cause the required inspection of sight and hearing to be made, but may have it made as carefully and effectively as possible, and may in general take advantage of the great opportunity which this bill gives for making a careful study of the physical well-being of the children under its care, to the end that the schools may not merely fill the children with knowledge (or attempt to do so in ignorance of physical defects that make the acquisition of knowledge practically impossible, with discouragement and truancy as almost inevitable results), but may turn them out strong and vigorous men and women, able to take their part in the world's work.

In Boston, Fall River, Cambridge, Malden, Brookline and Arlington, the appointing of the school physicians will (under the provision that where the Board of Health is doing it, it shall keep on) be in charge of the Board of Health and not of the School Committee, and in places it will be necessary that the Board of Health and School Committee shall both be interested.

2. Work will have to be done to secure the appropriation for carrying out that part of the bill which requires a doctor's visit to each child who seems in ill health. For this purpose it is necessary, in each town, that the School Committee or someone else shall see that the town warrant contains the definite question whether money shall be appropriated for this specific purpose ("to carry out the provision of chapter 502 of the Acts of 1906," or words of the same import), and that the citizens shall vote that it be so appropriated. The first town meeting should be taken advantage of, in order that the work may begin as early as possible. In cities it will be necessary to interest the City Council and secure an appropriation by them.

It is very important to observe and to point out how small an appropriation is needed. The following schedule, made from official reports, shows what the expense has actually been in cities and towns where the system has been in operation in this state. Note that in large places, where the doctor is required to make more or less regular visits at short intervals, the expense is about $25 per thousand inhabitants, but that in the two places, Milton and Andover, where the doctor comes only when he is sent for—as will probably be the practice everywhere except in the cities and largest towns—the expense is about $11 per thousand inhabitants (barring $50 spent for inspection of sight and hearing in Milton, which under our law would be done by the teachers.) The appropriation ought probably to be about three times the amount needed, so as to provide for possible epidemics.

Against the expense must be placed the saving to the community from cutting off one of the chief channels for the spread of infectious disease, especially diphtheria and scarlet fever, a saving not only in the life and health of the children but in that of the community at large. Where the community supports a hospital it will probably save in dollars and cents, as a community, as in the opinion of Dr. Durgin, Boston has undoubtedly done. When it has no hospital the saving will be as great, but it will be to the individual citizen in avoiding loss of work and doctor's bills.

3. Citizens in general should be interested in order to carry through the appropriation, whether by town meeting or city council, and also in order that parents may appreciate the importance of acting upon the notices in regard to their children's health which they will receive as a result of the inspection provided for in the bill.

This is a matter in which it is hoped that not only the members of the Civic League, that had the bill in charge, but every village improvement society, grange and women's club will be interested. It is a specially appropriate subject for women to take hold of, inasmuch as the whole effectiveness of the law will depend upon the degree of interest which the children's mothers take in it.

Doctors are so thoroughly and

COST OF MEDICAL INSPECTION WHERE IT NOW EXISTS.

The following summary we believe to be correct as far as it goes. The column giving cost per thousand inhabitants is merely to make comparison easier; it is not claimed that one can argue directly from one place to another on that basis:

Place.	Population.	Cost per Inspector.	Total Cost.	Cost per 1000 Inhabitants.	Remarks.
Boston	595,380	$200	$10,200	$17.00	Daily inspection. Paid by Board of Health.
Cambridge	97,434	200	1,600	16.40	Daily inspection. Paid by Board of Health. ($400 for parochial schools included.)
Malden	38,037	50	200	5.50	The inspectors went at this low pay to prove its use. They visit twice a week and when sent for. Under the Board of Health.
Salem	37,627	?	?	?	Under School Committee.
Chelsea	37,289	000	000	0.00	Under School Committee. Three doctors give their time.
Waltham	26,282	200	600	22.70	Under School Committee; two or three times a week. Teachers test eyes.
Marlborough	14,073	....	200	14.20	Under School Committee.
Towns:					
Brookline	23,436	....	about 680	....	Board of Health. Eight inspectors paid $1 a visit. Two or three visits weekly.
Arlington	9,668	300	300	30.00	Board of Health. Daily inspection.
Winchester	8,242	200	200	23.00	School Committee. Visits once in ten days.
Milton	7,054	....	80*	11.30	School Committee. Doctor comes when sent for. Eye and ear examinations made by Director of Physical Training.
Andover	6,632	....	about 70	10.50	School Committee. Doctor comes when sent for.

*This was the cost of actual medical inspection. Milton also paid $50 for tests of sight and hearing, which under our bill would be done by teachers without extra pay.

incredibly addicted to the process of sawing off the branches they are sitting on that their interest is taken for granted.

This is an agitation that will not end with the securing of one year's appropriation for school physicians, nor even with the firm establishment of medical inspection and physical examination as a part of our public school system. The object will not be accomplished until every school committee has become thoroughly imbued with the idea that all-round development is the object of education, to which instruction is only a means; and that in the forwarding of such development it is a part of their function in every way to promote general health and vigor and the full use and training of the senses, as well as to protect so far as possible against acute disease. The object will not be accomplished until every parent realizes that development and not learning is the aim, and is ready to promote such development by encouraging play and exercise and the admission of fresh air, by making any necessary and rational changes in diet, by buying spectacles when needed, and by having adenoids removed in those not infrequent cases in which a brief operation will do more for healthy mental and all-round development than all the schooling in the world.

In cities the school nurse will do more than all else put together—so the New York experience has shown—to bring home the needs of the children to the parents and secure practical results.

The system does not, like the feeding of school children, already resorted to in France and in parts of England, lessen the responsibility of the parent

and so tend to weaken or supersede the home. Under medical inspection absolutely nothing is done for the parent but to tell him of needs of his child of which he would otherwise have been in ignorance. It leaves it to him to meet those needs. It leaves him with a larger responsibility than he had before. Outside charity, indeed, may help; special funds (for spectacles, for instance) may be provided. But such outside help will be guided by the general principles that govern charitable relief; there will be no new or enervating method or principle introduced. Where, under medical inspection, instances of starvation have been found, they have turned out, in nine cases out of ten, to be instances of carelessness or of ignorance as to how the child should be fed, and instruction thankfully received has supplied the sufficient remedy.

If only for what, in the way of wholesale and desperate resources, it may head off, medical inspection is a valuable step in the Civic League's social policy of *developing powers rather than giving material support: not tying on the flowers, but watering the plant.*

I have spoken wholly about the question of what needs to be done. There is no doubt whatever that the need is a real and a pressing one. As to the part of the bill dealing with acute disease there is a mass of evidence showing conclusively—

1. That the schools are a principal means of disseminating disease throughout the community.

2. (One of the reasons why the above is true:) That children go to school with light cases of measles, scarlet fever and diphtheria and return to school while still in a condition to transmit disease.

3. That medical inspection can largely prevent the dissemination of disease in the schools.

4. That children also go to school while suffering from severe non-contagious diseases, and can be greatly benefited by medical inspection resulting in notification of parents in such cases.

In the matter of the need of tests of sight and hearing there is a great mass of testimony that shows conclusively—

1. That a very large percentage of school children, probably between twenty and twenty-five per cent. in the country and about thirty per cent. in cities, are defective in sight to the extent of needing glasses to do their school work properly, to prevent permanent injury to their eyes, or to avoid great nervous strain. These conclusions are based upon examinations of many thousands of children, conducted in all parts of the world; and there is now no doubt whatever as to the substantial accuracy of the results.

2. That defects of sight increase with the length of school attendance and as a consequence of it.

3. That about five per cent. of school children are defective in hearing so as to seriously interfere with their school work. (The percentage of defects of hearing varies from week to week with weather and other conditions, and therefore cannot be so definitely stated as in the case of sight.)

4. (What is of especial importance:) That *only a small minority of these defects of sight and hearing are discovered by the teachers or are known to them, to the parents, or to the children themselves.*

5. That the results of children attempting to do school work while subject to these defects include the following:

Great injury to the eyes, often resulting in blindness.

Great injury to the nervous system, owing to eye strain.

Depression, owing to inability to do what other children can do; such inability proceeding, in the opinion of the teacher, the parent, and the child himself, from mental deficiency when really the cause is inability to see or hear.

Truancy, leading frequently to delinquency and crime.

6. That the results of ascertaining the existence of such defects are:

To put a stop to the above evils.

Often to secure proper treatment on the part of the parents and thereby save the sight or hearing.

To secure modification of school work (for instance, the placing of partially deaf children where they can hear and partially blind children where they can see, improvement of light in the school building, etc.)

7. That teachers acting under proper instructions, either oral or printed, can make the tests of sight and hearing sufficiently well to discover somewhere from seventy-five to eighty-five per cent. of cases of defective sight and hearing. They will also be able to observe, as perhaps a doctor could not, those symptoms of "nervousness, inattention, and pain in the eyes and head, that are often symptoms of defective sight, even though by excessive muscular effort the deficiency in vision may be overcome."*

Our law obliges every child to go to school. Ought it not also to provide that when he gets there he shall not be liable to such injuries as these? There can be no doubt as to the right to make such inspection. If it is the function of the school to teach the child to read, it may surely also ascertain whether he can see the letters. If it is its function to give him oral instruction, it must have the right to find out whether he can hear. J. L.

*David W. Wells, M. D.: "Sight and Hearing of School Children," page 19.

LORING COES—VETERAN MANUFACTURER.

LORING COES was known in Worcester as a genius. His name ranks with Washburn, Knowles, Crompton, Merrifield and other early manufacturers, all of whom gave to the world a practical invention and built up a business which for many years has been one of the industrial supports on which the city rested.

Mr. Coes died July 13th, leaving a name that will be remembered so long as a wrench is used by mechanics the world over. For seventy years he was actively engaged in business, and for sixty years manufactured the particular style of wrench familiarly called the monkey-wrench, known the world over. Up to within a few weeks prior to his death, he personally conducted his vast business interests, and when he died the oldest manufacturer in the United States, if not in the world, passed away.

For eighty-one years he had labored as apprentice, journeyman and manufacturer, and during those years gave the world inventions which will make his name enduring. At the time of his death Mr. Coes was President and Treasurer of the Coes Wrench Company and Loring Coes & Co.

Mr. Coes was the oldest son of Daniel and Roxanna Coes, and was born in Worcester April 22d, 1812. His early life was like that of the majority of country lads. His father conducted a small farm and Loring was the chore boy and attended school meantime. At 13 years of age he was apprenticed to Anson Braman to learn the carpenter trade. After serving his time he worked for a while as a journeyman for Mr. Braman. When he got through with Mr. Braman he entered the employment of Salmon Putnam, in Leicester, in the same business, with whom he continued until his 22d year.

He worked for a short time for the Kimball-Fuller Company as patternmaker, and afterwards entered the employ of Henry Goulding in the same line of business.

Aury G., a younger brother of Mr. Coes, had been working with Kimball & Fuller, and in 1836 the brothers formed a copartnership and bought out the firm of Kimball & Fuller, at the old Court Mill, a few rods south of Lincoln Square, and started in a small way the manufacture of woolen mill machinery. With his brother he car-

ried on the business until 1838, when their establishment was destroyed by fire. The brothers went to Springfield as patternmakers in the foundry of Laurin Trask. While at work in Springfield, Mr. Coes invented the monkey-wrench, which has come into universal use throughout the country. There were then two styles of wrenches, one of English invention and another known as the Springfield or Merrick wrench. The mechanism of both of these wrenches was such that both hands had to be used to open and close them. The improvement made by Mr. Coes consisted of an application of a screw so that the wrench could be held and adjusted with one hand.

It occurred to Mr. Coes to dispense with the screw on the shaft and to affix by the side of the shaft a small bar, in the form of a screw, which would enter another screw formed in the lower or movable jaw of the wrench; and that the first screw should have, at its lower end, where it should enter the handle, a roset always in reach of the thumb of the hand that held the wrench. This roset, being pressed and turned with the thumb, would operate the screw, and the opening and closing of the wrench could be easily effected by one hand. It seemed to him that this adjustment would make the tool much stronger by removing the indentations from the bar or shaft, and there would be less liability of injury to the wrench from severe usage or improper handling.

In 1840 Mr. Coes and his brother returned to Worcester and began in a small way the manufacture of wrenches, with the firm name of L. & A. G. Coes. They at once directed their efforts to securing a patent for the invention. A patent was granted Loring Coes April 16, 1841, and for several years considerable difficulty was experienced in securing business in opposition to the manufacturers of other wrenches. The superiority of the Coes wrench was soon recognized and the way was open for orders. H. W. Miller first acted as selling agent, after which the goods were sold by C. Foster & Co., and Ruggles, Nourse & Mason. Since April 1, 1853, the concern marketed its own goods. In 1844 the concern moved from the Court Mill on Union Street to the Albert Curtis shop in New Worcester.

July 21, 1853, with Levi Hardy, they bought from Moses Clement his shop, machinery and business, which was in the manufacture of shear blades and knives for hay cutting machines. This copartnership continued until May 21, 1864. After the dissolution the brothers continued the business, Mr. Hardy's interest having been taken by the brothers. The accounts of the wrench business and shear blade and knife were kept separate.

April 1, 1869, the brothers dissolved their copartnership, and divided the business, Loring Coes taking the upper dam privilege in New Worcester, including the shear blade business, and paying a bonus for the right of choice. At this time they manufactured from 6000 to 9000 wrenches each month. Loring Coes erected a brick factory, 100 feet long by 40 feet wide, four stories high, at the lower dam. The building, with the machinery to be used in it, was finished early in 1871.

In the interval since April 1, 1869, he had been engaged in the manufacture of shear blades, under the name of Loring Coes & Co., at the upper shop, deferring any manufacture of wrenches until the new factory should be completed. From April, 1871, to 1888, Loring Coes & Co. carried on their business in both these departments with enterprise and success.

Improvements, whose need became apparent, were made and patented year after year by Loring Coes. The wrench was strengthened and made better in balance, and in 1885 the knife handle, or scaled and riveted handle, also his invention, replaced the old round-handle die made of a single block. This model was so successful that it practically forced the reconsolidation of the Coes family into the Coes Wrench Co., the new partners being nephews of Mr. Coes. Improvements and patents followed this, and a successor to the original model was made in 1895. This in

time gave place to a superior model in 1901, which in its turn was supplanted by twin models with wood and iron handles, in 1903.

A little more than four years ago Mr. Coes, at the age of 90, bought out the interests of the other partners and assumed sole ownership of his wrench business, and in June, 1902, he consolidated with it the corporation known as the Loring Coes & Co., incorporated, making machine knives.

Mr. Coes never invented for amusement. Various machines in his shops show a clear insight into mechanical construction, and many of them antedate patents now being worked by machine toolmakers throughout the country. Of late his chief line had been the improvement of methods and tools in the knife department, with remarkable results.

The knife shop has run full-handed for many years, without the loss of an hour, and a great part of the time has run over-time in spite of times of general depression. Mr. Coes has always been very conservative in the management, and has always had personal supervision of the work. The knives and shears made at the shop are considered to be of the best quality, which has been the first requisite in every case. Whether the order received be large or small, it must be filled with goods of the best quality, and this gave the shop a name all over the United States for excellence of work.

Mr. Coes invented much of the machinery in the shops. It is recognized as the only plant in the United States where grinding is carried out to mathematical accuracy, and where instruments of precision are used in the manufacture of knife work. The shop has the finest hardening facilities in New England, and is doing some of the most difficult work in this line. The product is known in all the markets of the world, exportations being made to Australia, South America, Japan and European countries. The shop has sent shears for carpet work into Scotland, in competition with those made by Sheffield manufacturers, and retains that trade.

Mr. Coes had been in the wrench business sixty-six years. A representative of the Japanese government told him last year that he had been around the world twice, both ways, and had never seen a man of his years in such touch with business matters as he was.

A wrench which was sold by Mr. Coes in the '50's was sent to the works last year for repairs. It could not be repaired, as the pattern is one that has long been obsolete in the works. A new one was sent instead. It was felt that the wrench had lasted well, more than fifty years. A letter acknowledging the receipt of the wrench was received at the office, wherein the writer said he has always used the Worcester goods and recommended them, for they are the best he has ever seen. This was unsolicited, and came from an entire stranger.

Mr. Coes had a wide reputation as a sportsman. He had made forty-seven trips to the Maine fishing lakes, being the Nestor of Worcester fishermen. His last trip was made a year ago and he was an enthusiast in fishing. He had made some remarkable catches, and after he had passed ninety years showed himself as much of an adept as the majority of men many years his junior.

In political life Mr. Coes had served in both branches of the Worcester City Council and had represented his ward in the General Court. He was a bank director and was also on the directorate of other business organizations.

WORCESTER'S FUTURE WATER SUPPLY.

To provide for Worcester's future supply has been the subject of much attention by city authorities. The City Council for several years has had its eye on the Asnebumskit watershed in Paxton and Holden, and views have been taken by water committees and engineers. Mr. Frederick A. McClure, city engineer, has given several years of study to the proposition which contemplates the expenditure of more than a million dollars. His statement, which follows, explains the proposition in detail.

THAT portion of the Asnebumskit watershed which has been looked upon with contemplation as a future water supply for the city of Worcester has upon further investigation and survey presented many additional features that are favorable to its consideration, and has confirmed the good impression which a somewhat limited search had previously formed.

The physical characteristics of the entire area are very attractive for the intended purpose, being for the most part of a wild nature, with a very small percentage of tillable land, and with sparse habitations throughout its borders. Not the least desirable feature is its nearness to the present Tatnuck brook supply, its separation being formed only by a low and short divide, which permits the system of reservoirs to be almost continuous. The fact that its run-off is available by gravitation, and that nature has done so much to minimize the difficulties of its obtaining, makes the project appear almost ideal.

In extent the watershed comprises about 9.48 square miles, and includes portions of the towns of Holden, Paxton and Rutland. The shed is naturally subdivided in two parts; that lying nearest to the Tatnuck brook comprises about 1.8 square miles, and includes a small pond known as Kendall reservoir. The waters of this portion of the shed flow northerly and join the waters of the main stream at Eagle Lake. Its basin is a fairly generous one, and offers opportunity for an initial development, being sufficient for the impounding of its own waters and a part of the main stream at Eagle Lake. Its basin is a fairly generous one, and offers opportunity for an initial development, being sufficient for the impounding of its own waters and a part of the main stream, which can discharge into it by means of a canal.

The principal part of the shed on the main brook itself has two points that offer practicable locations for the main dam and reservoir, but the more suitable one of the two I believe to be at the site of the present dam and basin, known as the Pine-hill reservoir. This location offers superior advantages for the construction of a dam and reservoir, by reason of the comparatively short dam required, and the excellent basin there existing. The underlying bed rock is at favorable depths, and the materials for construction conveniently located, and from a careful examination of the surroundings, I believe this site the more desirable one to consider.

It may be asked: "Why not build one large dam and reservoir for conserving all the water?" Attention was given to such a project, but sufficient basin capacity at the Kendall reservoir site does not exist, and a dam at that point is necessary in order to utilize the adjoining shed to advantage. By reason of this detached area from the main stream, it is more convenient and practicable to impound the waters separately, and to place the main dam for the larger portion of the shed at a more suitable location, where the basin necessary to its proper conservation can be found.

Thorough surveys of the several locations for the proposed works have been made, and many borings to determine the nature of the underlying strata obtained, and in each instance favorable conditions were encountered for carrying out the work as here recommended. After a careful study and consideration of all the facts, I believe the dam and reservoir at Kendall pond should be first considered, and I recommend the con-

struction of an impounding reservoir upon this site, with dam of sufficient height to flow to elevation 814. As recommended, this reservoir will have an area of 171.82 acres, and a length of 1.45 miles.

Its available capacity will approximate 814,000,000 gallons, and its maximum depth will be 32 feet. The level of the water will be a few feet above the summit of the Tatnuck brook divide, and a dike at this point will become necessary. A gate-house for the control of the water, is a feature of the dike, from which a concrete conduit 48 inches in diameter will deliver the water into a discharging pool immediately before its union with Tatnuck brook.

This point is about one-fourth mile above Tatnuck brook reservoir number 1.

The main dam will be situated at the northerly end of the reservoir, with a waste weir 35 feet in length discharging into Eagle Lake. The dam will be 1100 feet in length, and should be provided with a valve chamber for emptying the reservoir when desired. The area to be flowed by the reservoir should be thoroughly cleared of all matter that may impair the quality of the water so that the present high standard of supply may be maintained.

It is also recommended that the waters of Asnebumskit brook be diverted by head works situated upon the stream, the flow line of the diverging dam to be at elevation 822. An overfall dam at this point will be required, with suitable bulkhead, sluice gates and other appurtenances for its proper control. From the head works a canal some 2700 feet in length will convey the water to the Kendall reservoir, to be discharged in thin vein by a weir running parallel with the canal, by which means abrasion and wash may be avoided.

It is recommended that the primary dam at Pine Hill be constructed to flow to elevation 902, which will give a reservoir capacity of about 2,000,000,000 gallons, and an area of 299 acres. The maximum depth of water at the dam will be 55 feet, and the waste weir will have a length of 75 feet. The water will be discharged through suitable appliances into the natural stream, and flow thence to the head works and canal for disposition.

Two designs for a dam at the Pine Hill location have been made, one an earthen structure and the other of cyclopean concrete. The locality is very favorable to the latter form of construction, and is well adapted to the site selected. Its cost also estimates somewhat less than the earthen dam, and from the nature of its foundations and other features pertaining to its construction, I believe it is the preferable form to use.

The development of the Asnebumskit stream as herein recommended will make a decided addition to the present water supply, and with the increased storage previously recommended upon Tatnuck brook, should amply supply a population twice that of the present.

The plan herewith presented does not require the completion of the entire project for some years to come, but can be built from time to time as circumstances demand. I believe, however, that the Kendall reservoir, together with the canal and head works, should be constructed at once, in order that its storage and the run of the brook can be diverted into the present supply when occasion requires. By the building of the conduit, with the canal and their accessories, the waters of the main stream can be turned into Tatnuck brook through the present Kendall pond, but lacking the proposed storage would be greatly minimized in value when needed.

If, however, it should be thought wise to advance the work no faster than the revenue of the Water Department will permit, then I believe this course of procedure the best, to be followed by the building of the dam at Kendall reservoir.

With this work accomplished, the storage conditions will then be such that the raising of the Tatnuck brook dam number 1, as proposed by a previous report, can with safety be carried out when deemed necessary, and the full value of that stream utilized. This form of procedure will defer the construction of the larger dam and reservoir at Pine Hill for many years, and

make possible the storage needed to safely meet periods of diminished rainfall.

The generous storage facilities offered by the project herein recommended will greatly reduce the cost of the impounded water as compared with that of the present system, the reservoir cost of which, per million gallons stored, amounts to $515, whereas by the proposed project its cost estimates $400 per million gallons.

The estimate of cost in accordance with the terms of the within order of the City Council is: Aqueduct to Tatnuck brook, with appurtenances, $86,511; Asnebumskit canal with head works, $62,002; Kendall dam and reservoir, $443,441; Pine Hill dam and reservoir, $534,504; total, $1,126,458.

Detail plans of the various features pertaining to the work have been prepared, and are on file in the office of the Engineering Department.

FREDERICK A. MCCLURE.

WORCESTER BOARD OF TRADE.

BANK BUILDING, 11 FOSTER STREET.

OPEN 8.00 A.M. TO 5 P.M. PRESIDENT'S HOURS: 1 TO 2 P.M. MONDAYS, TUESDAYS, WEDNESDAYS AND FRIDAYS.

PRESIDENT, WILLIAM A. LYTLE. VICE-PRESIDENT, GEORGE F. BOOTH.
TREASURER, H. WARD BATES. SECRETARY, HERBERT M. SAWYER.

Directors.

H. W. GODDARD,	WM. A. LYTLE,	GEORGE F. BOOTH,	F. S. BLANCHARD,
CHARLES L. ALLEN,	WM. H. COUGHLIN,	IRVING E. COMINS,	WILLIAM FORSBERG,
EDGAR REED,	GEO. B. BUCKINGHAM,	J. RUSSEL MARBLE,	CLARENCE W. HOBBS,
JOHN A. SHERMAN,	GEO. T. DEWEY,	THOS. T. BOOTH,	WINTHROP HAMMOND,
PLINY W. WOOD,	REGINALD WASHBURN,	GEORGE F. BROOKS,	JOHN W. HIGGINS.

Clerk of the Corporation, CHAS. PERKINS ADAMS. *Auditor*, CHARLES A. CHASE.

Chairmen of Committees.

Advisory—Rufus B. Fowler. Membership—Herman S. Hastings. Ways and Means—George T. Dewey. Manufactures—Clarence W. Hobbs. Meetings and Receptions—Irving E. Comins. Mercantile Affairs—J. Russel Marble. Transportation and Railroads—Harry W. Goddard. New Enterprises—George F. Booth. Municipal Affairs—George F. Brooks. Taxation and Insurance—Pliny W. Wood. Foreign Trade—Charles L. Allen. Statistics and Information—Reginald Washburn. Arbitration—John W. Higgins. Legislation—George T. Dewey. Publication—Rufus B. Fowler. Education—J. Russel Marble.

The Worcester Board of Trade wants to keep on file at the Secretary's office a complete list of places where floor space can be secured for manufacturing and business purposes. There are calls made every day for such information. The Secretary would appreciate it if every owner of a building in Worcester used for manufacturing or mercantile business would furnish particulars of what he has for renting purposes, and if land-owners would also file a list of available building sites. State owner, location, whether store or factory, amount of floor space, amount of power available and approximate rental. If it is land for manufacturing purposes, state owner, location, number of square feet, general dimensions, any building thereon; if so, give floor space, number stories, brick or wood, power plant with horse power, and purposes last used. Also give name of railroad near it and side-track facilities. Give price that can be used as basis of negotiation.

This information is for the use of the Secretary, and is not to be used for any purpose except to locate new or present business interests. No compensation is to be asked for any lease or rental that may be brought about by the Board of Trade.

Historical: The Worcester Light Infantry returned from the Civil War August 1st, 1861.

The corner-stone of the old Town Hall, corner Main and Front streets, was laid with Masonic ceremonies, August 2d, 1824.

The first meeting of the Board of Directors of Worcester Board of Trade after the summer vacation, is Thursday, September 13th.

There were about 2000 packages entered at the Worcester Custom House during June. The estimated value was $18,000, and the list of imports was varied.

The figures of the registry department at the Worcester Post Office for the year ending June 30th, shows 229,297 pieces handled, an increase of ten per cent. in the amount of registered matter handled over the preceding twelve months.

THE WORCESTER MAGAZINE

Vol. IX. SEPTEMBER--1906 No. 9.

Magazine and Municipal Comment.
Value of a Technical Education.
Worcester Music Festival of 1906.
Harvard's Oldest Graduate.
Prosperity of a Nation.
Board of Trade Notes.

DEVOTED TO

Good Citizenship and Municipal Development

PUBLISHED MONTHLY BY THE BOARD OF TRADE
WORCESTER, MASSACHUSETTS,
U. S. A.

$1.00 A YEAR. 10 CENTS A COPY

CENTRAL SUPPLY CO.

Steam and Gas Supplies

Wholesale and Retail

Wrought Steel
Cast Iron
and Brass

PIPE

All Weights
and Sizes
1-8 to 24 in.

Automatic Sprinklers

Brass *and* Iron Fittings

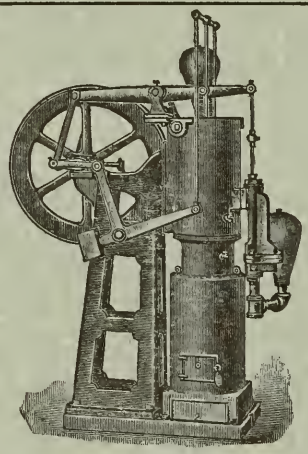
Tanks

Inspirators

Injectors

Traps

Hand *and* Power Pumps



Ericsson Hot Air Engines

Oil Filters

Wind Engines

Brass *and* Iron Valves

Towers

Pipe Tools

Railing Fittings

Pipe Covering

Hose, Etc.

The Leading Makes of

Steam and Hot Water Heaters

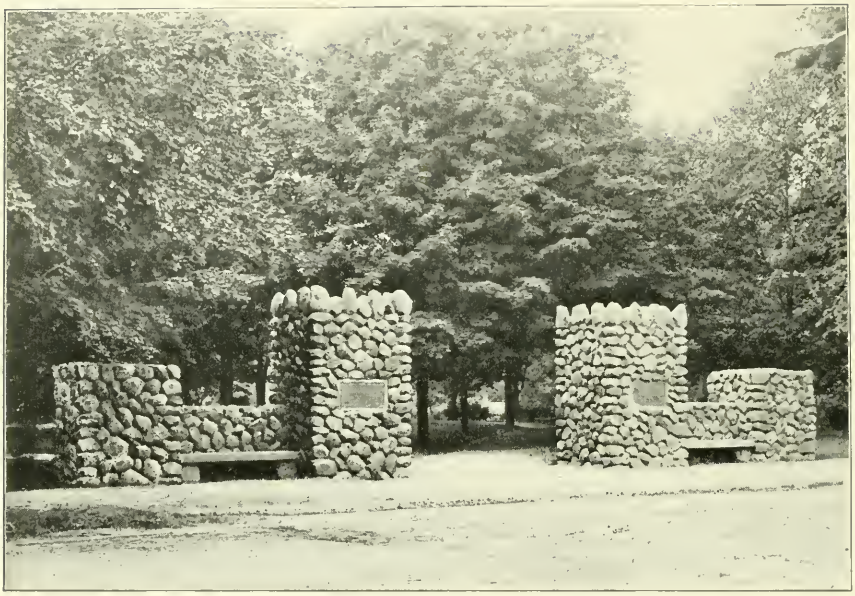
Radiators of all kinds and sizes

Send us your address and receive estimate (free) from responsible fitter for heating your home, store or factory.

Pipe cut to sketch. Complete Steam, Automatic Sprinkler and Heating Outfits. Pumps and Pumping Appliances of every description.

35 and 37 Waldo Street

WORCESTER, MASSACHUSETTS



LINCOLN MEMORIAL GATEWAY AND TABLETS,
ELM PARK.

ELM PARK
"AS THOUGHT AND WROUGHT"
BY
EDWARD WINSLOW LINCOLN
PARK COMMISSIONER
1870 — 1896
ERECTED BY THE CITIZENS OF WORCESTER
1905

This section of ELM PARK
containing 27 acres deeded to the
CITY OF WORCESTER March 17
and March 20 1854 by
LEVI LINCOLN AND JOHN HAMMOND
was the FIRST PURCHASE of land for
a public park in the UNITED STATES.

The Worcester Magazine.

VOL. IX. SEPTEMBER, 1906. NO. 9.

This magazine is published by the Worcester Board of Trade. Its reading pages are devoted solely to municipal development, good citizenship and the business welfare of Worcester. Space in these pages is not for sale.

MAGAZINE AND MUNICIPAL COMMENT.

Winslow Gate at Elm Park

The Magazine this month prints as a frontispiece the memorial gate at the entrance to Elm Park from Russell Street. It was placed there by subscription as a memorial to Mr. Edward Winslow Lincoln, for many years a member of the Parks Commission, and who devoted many years of his life to the cultivation and beautification of that particular park. So well crowned with success were his labors that Sylvester Baxter of Boston, an authority on parks, says that it is the most beautiful cultivated park in the United States. A tablet at the entrance sets forth the fact that the gate is a memorial to Mr. Lincoln, and another tablet sets forth the fact that a portion of the present Elm Park was conveyed to the city of Worcester by Levi Lincoln and John Hammond in March, 1854, and was the first property purchased by any municipality in the United States for park purposes. This purchase was made two years before the city of New York purchased the lands for her famous Central Park, which was generally considered to be the pioneer movement in the country in the matter of public parks.

Value of Technical Education

One of the most instructive and practical addresses of the recent commencement season was delivered by Hon. Charles G. Washburn, president of the Worcester Polytechnic Institute corporation, at the Institute's commencement, on "Technical Education in Relation to Industrial Development." It was a rather lengthy paper, but contained specific things that deal with Worcester and with the increase of wealth which has been brought to Worcester city and county and to the State of Massachusetts through the Worcester Polytechnic Institute by an increased earning power of its graduates, and it was brought out very clearly. The part of the address dealing with the foundation of the Institute and its relation to industrial development and the wealth that has accrued to city, county and State through its means is this month reproduced in the Magazine.

Mr. Washburn is not a professional educator. He is a lawyer and manufacturer. Several comments have been made upon the address, but one of the best is from the Protectionist, which says:

"In this address he treated his theme historically, partly with reference to the growth of manufactures in this country, partly in relation to scientific and manual instruction in Europe and particularly in Germany, and partly concerning the founding and progress of the Polytechnic Institute for which he was speaking, and of other technical schools and colleges in this country. His scholarly attainments enabled him to illuminate the subject with information which should be of great interest to all who are engaged in manufacturing, and at the same time to adorn the relation with fine literary allusions and a simple and elegant style, so that the pamphlet is fascinating reading.

"One cannot get far into it without being imbued with a spirit of discovery and achievement and convinced that the future of our industrial and commercial success will depend less than in the past upon virgin opportunity and more and more upon the mastery of science and the progress of invention. He made it clear that hereafter all important enterprises must be in charge of technically educated men and that, notwithstanding the consolidation of companies, there has never been so great an opportunity for well-equipped men as now."

The Laborer and the Public School

In connection with the increase in salaries of the school teachers of Wilkesbarre, Pa., the Leader of that city, under the caption, "The Laborer and his Hire," makes this comment:

"The secret of American manufacturing success lies in the thorough equipment of a plant without regard to initial cost and the intelligent handling of complicated machinery by employees.

"From our public schools results are expected just as certainly as they are in the business world.

"What is true of intelligent operation in manufacturing is true to an unusual degree in school teaching.

"The teacher is the head of a department, and the success of that department is absolutely dependent upon the ability of that teacher to handle it properly.

"Instead of dealing with machinery of a certain standard or goods of a fixed grade, the teacher finds the infinite variety of human life and intelligence as a material from which a finished product must be moulded.

"And because it is soul stuff that is developed the task becomes one as important as is the cause of humanity."

Portland Likes our System

Municipal officials from Portland, Me., have visited Worcester within the past month investigating street sprinkling methods. Other Massachusetts and Connecticut cities were visited, and there is considerable interest in their report. The American Car Sprinkler Co. method of sprinkling the streets by electric cars impressed the visitors as about the right way to have it done, but they were not so certain about the methods employed in Worcester in paying for the work. Maine cities are watching Portland on their decision in the sprinkling matter, and the report of the Portland committee is good reading. It was made to the City Council by Alderman Noble and a portion of it is here given:

"Under this law the three Massachusetts cities visited—Lynn, Worcester and Springfield—sprinkle their streets in whole or in part at the expense of the abutters. In Lynn and Worcester the abutters on each side of the street pay one-half of the expense, while in Springfield the abutters on each side pay one-third of the expense each, while the remaining cost is paid out of the general tax fund. The Hartford system is like that of Lynn and Worcester in this respect.

"All the cities mentioned have their streets which are partially occupied by street railways sprinkled by means of street car sprinklers, and all have the car sprinkling done under contract either directly with the American Car Sprinkling Company or with parties who have obtained their cars from this company.

"In Lynn and Hartford all the sprinkling, including the car sprinkling, is done by contract and the entire equipment is owned by the contractor. In

Worcester the cart sprinkling is done by the city, while in Springfield the city owns the carts, but contracts for men and teams to run them. In all contracts the city is a party, and the street sprinkling assessments are collected by the city as other taxes are collected, the assessment being a lien upon the land by statute.

"In Springfield, where the most desirable results seem to be obtained, one man is employed to give his whole attention to looking after the street sprinkling to see that it is done satisfactorily. The contractor at Hartford has an automatic sprinkler which works well and is said to give good results. All the cities visited own their water supply plants.

"So far as the committee were able to learn, the system of sprinkling the streets at the expense of the abutters, wholly or partially, is satisfactory both to the city and the citizens, and the method of using car sprinklers having once been in use is indispensable, doing the work much more quickly and at a greatly less proportionate expense. The principal streets can thus be sprinkled eight or ten times a day when necessary. The cars have on each side double swinging arms, which enables the use of three quantities of sprays and may be adjusted to any width of street up to fifty feet wide with a single track, or seventy feet wide with a double track. These arms easily swing around any object on the street without coming in contact with it. A car will ordinarily sprinkle three-quarters of a mile of street without being refilled. The system in vogue in these four cities is unquestionably far preferable to the private contract system now in use in Portland. Your committee are therefore unanimous in recommending that a general law be passed in our next Legislature which will enable the cities of Maine to tax abutters for street sprinkling."

Oarsmen want a Bridge too

Worcester has again had the national regatta, which gave the city wide advertising throughout the country. Any rowing event on the Lake advertises Worcester in two ways. People enthuse over the beauties of the Lake and the surrounding country, and as a regatta course is without an equal in the world for the mile and a half distance. The other bit of advertising that Worcester obtains on the occasion of a regatta is not so favorable. It is the presence of the causeway and the absolute need of a bridge. It is not likely that another regatta will be held on the Lake until there is a bridge, for the inconvenience to the oarsmen is of some account. The perfect rowing course feature is offset by the utter lack of accommodations for the oarsmen. At the close of a day's racing there is a rush of shell, canoe, rowboat and steamer for the hole in the causeway to reach the boat-houses where the crews are quartered. The delays are disagreeably long. It is not a great undertaking to replace the causeway with an up-to-date bridge, and now that Shrewsbury Street is being widened to boulevard width the needs of a bridge to span the Lake are more and more evident. Why not now start an agitation for a bridge at the Lake and make that suburban resort what it should be, the most attractive in New England?

One of the regatta officials—Mr. Fox of Boston—comes out in an official statement that it will be many years before the regatta comes to Worcester again. This is the statement of one man connected with the regatta directorate, and is in no sense definite. The regatta is given out every year to some city that has a good course and there are few of them. It is conceded by oarsmen and officials of regattas that the most perfect course is Lake Quinsigamond, and because there was some lack of police patrol of the Lake during the two days' rowing, or because the crews were not allowed to row a race on Sunday, or because there is no bridge and there is too much of a delay at the causeway, is no reason why Mr. Fox or any other official intended forever shutting out Worcester from the scene of another national regatta. They are always glad to come to Worcester and always will be. Rowing is not the most enthusiastic sport on the calendar, and there is not always a scramble to secure a regatta,

and the officials are only too glad to have a bid go in from Worcester for the annual event. It is not expected to be held here as an annual event, and after the Jamestown Exposition has had one of its features, a national regatta, or some other city wants it as an advertising medium, it is quite probable Worcester will have its beautiful Lake spanned by a bridge, and then a national regatta will be welcomed and Worcester will turn out and give the visitors the same royal welcome that has always been accorded them. Do not go away condemning Worcester because there was some lack of proper police patrolling of the course, or because there is no bridge. Come back and the bridge will be ready for you.

The Age of Investigation

Horseless carriages, wireless telegraphy and pitless plums are all well enough, and betoken the advance of civilization. But when it comes to creamless ice cream, it is quite another story, and the line must be drawn at the hither side. So our ice cream is to be tested for butter fat. We are to have no more emaciate ice cream. Frozen pudding which shows signs of going into a decline is to be barred. Frozen skimmed milk may not henceforth be padded out with cornstarch. It is welcome news. Nothing is too good for the summer girl. But why stop with the ice cream? Make all the dainties live up to their names. There is the chewsome marshmallow. Who knows if it ever saw a marsh? And are the chocolate drops really dropped or are they merely bunched up? Do we get properly sterilized water in our watermelons? Are our Welsh rabbits really imported, or are they just common, lop-eared bunnies? This is an age of investigation, and it grows harder each day to fool the great public. We must know what we eat.—Boston Advertiser.

Tax Rate Goes Still Lower

A fact that is worth spreading broadcast is that the tax rate in Worcester for 1906 is fixed at $16.60, a reduction of forty cents over that of 1905. This is a low rate for Worcester and shows that the finances of the city are being fairly well guarded. Many improvements are being made, but some good executive ability is being put to use in the expenditure of the money. This tends to make Worcester an absolutely safe city in which to do business. There are no wasteful expenditures of the people's money, but rather a tendency to curtail in every department. There are some who think this a narrow policy, that Worcester should spread out, or as a minority councilman might say, "loosen up" on the treasury purse strings. Worcester has a reputation outside of the city, and even outside of the State, of being a well governed city, and it maintains a borrowing capacity outside the debt limit beyond that of any other New England city, and all because there is some care and judgment used in the expenditure of money. Worcester's bonds are instantly taken up the day they are placed on the market, because they are known to be as good as gold and bankers are willing to pay a liberal premium for them. Such a condition of things comes from having a reputation for honest government and judicious expenditure of the people's money.

In connection with this statement of reduction of tax rate a few figures of valuations may be given at this time. The total valuation of the city is $123,211,451, including $426,151 of resident bank shares. The real valuation is $97,433,550, and the personal valuation $25,351,750, exclusive of the $426,000 of bank shares. Ward 10 leads in real estate valuation, with $21,548,250, and Ward 1 has $12,935,600, while Ward 7 is third with $10,638,350. Wards 2 and 9 are in the $7,000,000 list, and the non-resident real estate valuation amounts to $7,548,250. In personal valuation Wards 1 and 10 lead, the former showing a valuation of $7,223,950 and the latter $6,871,250. Wards 3 and 7 show a personal valuation of over $2,000,000 each, and the other wards are between $1,000,000 and $2,000,000. The assessed valuation of non-resident personal is $223,560. The valuation in real estate is $1,763,700 more than last year and the personal valuation is $582,247 more

than last year. The assessors picked up a lot of personal property over last year, amounting to more than half a million dollars.

The amount of the tax levy this year is $2,104,988.63, and with the prevailing rate amounting to $2,122,112.08, there is left as overlayings $17,123.45. The State, county and city tax for 1905 and 1906 is here given:

	1906.	1905.
State tax,	$142,018 83	$161,434 34
County tax,	135,693 00	135,693 00
City tax,	1,827,276 80	1,820,586 43

Governor Folk's Advice to Merchants

Gov. Joseph W. Folk, in addressing the retail merchants of Missouri at their convention at Jefferson, spoke against the mail order business and favored advertising in the town papers. He said in part:

"We wish the city merchants to build up, but we also desire the country merchants to prosper. I do not believe in the mail order citizen. If a place is good enough for a man to live in and to make his money in, it is good enough for him to spend his money in.

"No merchant can succeed without advertising in one way or another. Patronize your town papers, build them up and they will build the town up and build you up increased trade and greater opportunities."

Important Railroad Matters Adjusted

During the summer months the Board of Trade has carried on a correspondence with the officials of the New York, New Haven & Hartford and Boston & Maine Railroads which has been beneficial to Worcester shippers and through which results have been obtained that are for the best interests of Worcester. The Committee on Transportation and Railroads, of which Mr. Harry W. Goddard is chairman, took up complaints from Board of Trade members and in one instance sought a satisfactory adjustment through direct communication with the local agent of the road, and in another case appealed directly to the Railroad Commissioners with entirely satisfactory results. The adjustments in question were brought about in the most amicable manner, the railroads being desirous of accommodating to the extent of their ability the shippers of Worcester.

The most important matter had to do with the New York, New Haven & Hartford road. The superintendent of the Providence & Worcester division submitted to shippers in Worcester on this line a blank agreement for signature, which if signed would have thrown on the shipper, or person using a side track, the liability in case of accident or damage from fire while cars were standing on the side tracks in question. This, if put into effect, meant a great deal to the shipper. In case an employee of the railroad was injured or killed while loading or unloading cars on the side track, or the property of the railroad or shipper was damaged by fire while cars were standing on such siding, the responsibility and liability were on the shipper. This was considered a radical agreement and F. D. Perry and G. A. Stevens, in Quinsigamond, refused to sign such agreement in common with others along the line. These two shippers were denied the use of their side tracks on ten days' notice, for refusal to sign the agreement, and the case was referred to the Board of Trade. The Committee on Transportation and Railroads gave a hearing to Messrs. Perry and Stevens and it was voted to take the matter to the Railroad Commissioners, which was done. After a conference between the Commissioners and Pres. C. S. Mellen of the New York, New Haven & Hartford road, it was decided by the railroad president to withdraw the agreement and resume side-track business on the same basis as heretofore. This was a decided victory for the Board of Trade and was one of the most important matters the Board has brought to a close for a long time. An attempt was made to establish a precedent that would have worked a decided hardship all along the line of the road, and had the New Haven road put such an agreement into effect other roads in all probability would have followed in the line of the New Haven people.

In the Boston & Maine Railroad matter, there has been a decided improvement in the service for wholesale shippers between Worcester and Athol, and the fruit shippers reaping the benefit. Ex-mayor W. H. Blodget of the W. H. Blodget Co., brought the matter to the attention of the Board of Trade, alleging that Worcester dealers could not compete with those in Boston on the Athol and Fitchburg division towns because there was a decided delay in deliveries of freight from this section. After the matter was taken up with the railroad the shipping facilities were adjusted so that Worcester dealers have no further complaint.

The Board of Trade appreciated the willingness of the railroads to improve such service, for the officials were willing to treat Worcester shippers fairly when the matter was called to their attention.

Worcester Gets two More Representatives

Worcester County Commissioners, in revising the Worcester county representative districts, give Worcester two additional representatives—one from each of the ten wards—and take the two from the county towns, where the population or number of legal voters has fallen off. There are twenty-eight representative districts and to cut down the representative districts in the county the lines were radically changed. The new districts in many instances are vastly different in make-up, but so far as any public utterances are concerned there are no great complaints from any section. The Commissioners have done their work as fairly as possible, but it is expected that some dissatisfaction will be met with in such an important matter.

Not a Commercial Benefit in Boston

Vice-president Edgar Van Etten of the New York Central Railroad, in a recent interview, said he has completely changed his views on the subject of electric locomotives. Two years ago he was in favor of the electrification of the suburban system outside of Boston. He is no longer in favor of such a move. Nothing has developed, to his mind, in the last two years to demonstrate that such a move on the part of his road in this section would be commercially successful.

The adoption of electricity at the New York terminal of the N. Y. C. R. R. will have no bearing on the local situation in this matter, so far as present indications point. Vice-president Van Etten says that electricity as a motive power for a railroad hauling tons of traffic, passenger or freight, has not been proven commercially successful, and that under present conditions there is no likelihood of the electrification of the road's trains at the Boston terminal.

Mr. Van Etten points out the substitution of electricity for steam at the New York terminal is not made from commercial motives, strictly speaking. The entrance to New York is through a long tunnel where there have been many accidents, the smoke obscuring the signals, besides making the trip through the tunnel uncomfortable as well as dangerous.

The substitution of electricity there is in response to a popular demand, and has nothing to do with any superior value of electricity commercially considered. Mr. Van Etten believes that the cost of operation by electricity will be found to be in excess of the present cost of operation by steam.

Whatever commercial advantage there may be in the change will come in the way of increased traffic on suburban lines due to the more rapid development of outlying towns and cities.

Receives Benefits from Carnegie Fund

Worcester Polytechnic Institute has received official notification that it has been accepted by the Trustees of the Carnegie foundation for the advancement of teaching as one of the colleges to be benefited by the fund set aside for this purpose by Andrew Carnegie. The list announced includes two Worcester institutions: Worcester Tech. and Clark University. This fund is an endowment contributed by Andrew Carnegie, the interest of which provides a pension for professors of the colleges accepted after they have fulfilled the requirements of the trustees of the fund.

VALUE OF A TECHNICAL EDUCATION.

IN the Commencement address delivered recently at the Polytechnic Institute by Hon. Charles G. Washburn, president of the corporation, upon "Technical Education in Relation to Industrial Development," speaking of the foundation of the Institute, Mr. Washburn said:

The foundation of our own school came about in this way. In the year 1865, John Boynton of Templeton, in this State and county, placed in the hands of his former partner, David Whitcomb of Worcester, the sum of one hundred thousand dollars for the endowment of a free school, which was to be located in Worcester if the citizens of Worcester should provide the land and suitable buildings. This condition was complied with by a gift of the land and of $61,111 contributed by 232 individual names and from twenty shops and factories. The Institute was incorporated May 9, 1865, under the descriptive and perhaps prolix title of Worcester County Free Institute of Industrial Science, which was changed in 1887 to the name which the Institute now bears.

December 2d, 1865, Ichabod Washburn of Worcester offered to establish a machine shop as one of the departments of instruction of the Institute.

The selection of the location of the school was an appropriate one. Worcester, then a city of 30,000, had long been famed for her industries and for the intelligence and public spirit of her citizens. Her industrial growth had taken place since 1830, prior to which time her manufactures had been of the most primitive sort. The Rev. Edward Everett Hale, whose life work, happily not yet concluded, has been so productive of good to his fellowmen, told me that Judge Merrick, a resident of Worcester, once met Samuel Slater, the pioneer cotton manufacturer, on the street in Worcester. Judge Merrick said to Mr. Slater:

"We shall never be a manufacturing town in Worcester because we have so little water power."

Mr. Slater said in reply:

"Judge Merrick, you may live to see the time when Worcester will need all the water of Mill Brook to provide the steam for her steam engines."

This conversation must have occurred at some time prior to 1835, and perhaps about 1830.

It is difficult to realize that William A. Wheeler of Worcester, who is credited with having installed in 1825 the first steam engine in the State west of Boston, should have discarded it and used horse power until 1840, when he put in another engine. William T. Merrifield at the same time put in an engine of from four to six horse-power. These were probably the first efficient steam engines in Worcester.

An indication that this was congenial soil in which to plant an institution like ours is found in the formation of the Mechanics Association, first attempted in 1819, and successful in 1841. The object of the Association was "the moral, intellectual and social improvement of its members, the perfection of the mechanic arts, and the pecuniary assistance of the needy."

Another object was the holding of an annual fair for the exhibition of the mechanical products of the city, and the first fair was held in September, 1848.

In July, 1854, in commenting upon the Association and its work, the statement was made that—

"Notwithstanding the inadequate supply of water power which is everywhere deemed so essential for the successful development of the mechanic arts, without the aid of a single act of incorporation, mechanical business has increased in this city by individual enterprise alone more than tenfold.

"The mechanics as a class are more enlightened than formerly, their course is onward and upward; they are not only increased in numbers, but continually expanding in influence and usefulness."

Ichabod Washburn was very much interested in this Association, and eight or ten years before the founding of the Institute had discussed with the Rev. Dr. Sweetser the feasibility of establishing a school in connection with the Mechanics Association for giving scientific instruction to mechanics in the fundamental principles of mechanics and chemistry. It was expected that funds for the enterprise would be contributed by the prosperous mechanics and manufacturers of Worcester. The financial panic of 1857 prevented the execution of this plan, and Mr. Washburn later decided to carry out his earlier conceived purpose in connection with the Institute.

Fortunate thus in its foundation and its location, the Institute began its life under the happiest auspices.

In estimating the value of a technical education to the individual and of technically educated men to the community, Mr. Washburn says:

An interesting statement in a recent address by James M. Dodge, then President of the American Society of Mechanical Engineers, which is confirmed by the experience of our own graduates, reveals the fact that the average annual salary of the technical trained man is over $2150, and for the non-technical but trade-trained man, $790, so that the gain in average annual income due to a technical training is over $1360. This amount capitalized at four per cent. gives to a man receiving a technical training a potential increase in value of $34,000. There are over one thousand living graduates of the Institute, to make no mention of an equal number who have spent more or less time at the Institute, but who have not taken a degree, so that at the lowest computation the work of the Institute since its incorporation, if measured in dollars and cents alone, would represent a capitalization of over $34,000,000. This represents merely a capitalization of the increased earning power of our graduates and takes no account of the enterprises which they have developed and which they direct, which would easily make the pecuniary measure of the contribution of our graduates to the world's assets a sum not less than $50,000,000.

Let us see if on this basis the State, the county and the city have not been great gainers by reason of the work of this institution.

The Commonwealth from the earliest time has aided the cause of education, but has now withdrawn pecuniary aid from all the higher institutions of learning excepting from the three schools within her borders which are occupied with the problem of technical education, namely, the Massachusetts Institute of Technology, the Agricultural College at Amherst and the Polytechnic Institute at Worcester. To this school the Commonwealth has given the sum of $200,000 in cash and makes an annual payment of $10,000, in consideration of which the Institute educates forty students who pay no tuition, at an expense to the Institute of over $12,000 anually. But this by no means measures the benefit conferred by the school upon the State.

There are now engaged in active life in this Commonwealth 397 of our graduates who represent directly and indirectly a wealth-creating power represented by a capitalization of approximately $20,000,000, against which may be set the $255,000 which has been received from the Commonwealth during the period, making the balance against the Commonwealth a considerable one. There are now engaged in active life in this county 214 of our graduates who represent directly and indirectly a wealth-creating power represented by a capitalization of $10,000,000. Certainly Mr. Boynton's gift of $100,000 for the benefit of the youth of Worcester County has borne fruit at least an hundred fold. There are now engaged in active life in the city of Worcester 173 of our graduates, representing upon the basis we have adopted a capitalization of $8,750,000.

Including the recent gift and bequest of Mr. Salisbury, the value of all our property, real and personal, is in round numbers $1,300,000, of which $1,000,000 has been contributed by citizens of Worcester. What a rich return upon the investment.

In addition to this, the Institute, at an annual expense of about $300 per student, is educating at the present time over 100 Worcester boys a year, for which is paid the regular tuition of $160 per year, which equals but little more than one-half of the cost, so that the Institute is contributing to the youth of the city educational advantages which cost it $15,000 annually. Is there not abundant reason for the belief that when the need arises the citizens of Worcester will contribute generously to the funds of the Institute?

Worcester is peculiarly dependent upon the brains of her people for her prosperity, much of which is due to our technically trained men who are directing the industrial affairs of the city, and upon whom the city must largely depend for future prosperity. Such in brief is the debt of the State, the county and the city to the school.

SAYINGS OF RUSSELL SAGE.

To excite envy is to make enemies.

Clubs are only places for idle men.

Society is to blame for many wasted lives.

Any man can earn a dollar, but it takes a wise man to use it.

I saved the first dollar I ever earned, and from that hour I have never been in debt to a human being for a cent that was not ready when due.

Those who live for pleasure alone do no good to themselves or to others.

There is no such thing as the money curse; a good man cannot have too much money.

Fifty cents is enough for a straw hat; it will last two seasons.

If I had my life to live over again, I would try just as hard to earn my money over and over and over again that it might do the most good to other men.

The tender care of a good wife is the finest thing in the world.

An active man builds success upon the foundation of failures; a passive man does not.

Real charity is disbursed without the blare of trumpets.

I think the vacation habit is the outgrowth of abnormal or distorted business methods.

I fear the centralization of big industries in the hands of five or six men will prove a big mistake.

When half a dozen men control the business and financial policy of a great industry, a single error of judgment will plunge the whole nation into financial loss and ruin.

I do not say that trusts are not a good thing; but I do say we should go slow.

WORCESTER MUSIC FESTIVAL OF 1906.

THE attention of the music world will be attracted to Worcester during the coming weeks. The Forty-ninth Annual Festival of the Worcester County Musical Association will be held in Mechanics Hall on Wednesday, Thursday and Friday, October 3d, 4th and 5th, there being five concerts and the regular number of rehearsals.

Worcester for nearly half a century has possessed an international reputation as a musical city and the fame of its annual Music Festival has gone the world over. No other American city can point to an unbroken record of forty-nine years during which there has been, without interruption, a notable week of music, ever increasing in artistic merit, from the early days when the Worcester Festival was quite local in its constituents to the twentieth century, when the earth is annually ransacked to provide the highest grade musical entertainments for festival patrons.

In music festivals as in various other activities, Worcester is in a class by itself in America. The only other city that lays claim to a pretentious permanent festival is Cincinnati, where the Seventeenth Biennial May Festival was recently held. But Cincinnati makes no boast of an annual festival and its most excellent festivals date from 1873, fifteen years after the Worcester Festival began its career.

This year Worcester will enjoy its Forty-ninth Annual Festival, the five great concerts falling on Wednesday, Thursday and Friday of the opening weeks of October. The policy of carrying forward the festival from the last week in September to the first week of October was carefully considered by the festival management, and it seemed wise that such change be made, although the Maine festival falls on the same week, where Schumann-Heinck is to be the star of that festival. The labors of the Worcester Board of Management are nearly over, so far as making arrangements are concerned, and the list of artists compares favorably with former years, the list being one of more prominence than in other years. Mr. Wallace Goodrich will again conduct the choral works, in which the Worcester Festival chorus of four hundred voices will be heard, and Mr. Franz Kneisel the orchestral programme, in which sixty members of the Boston Symphony Orchestra will again appear. The programme includes five concerts: Wednesday evening, October 3d, Handel's Oratorio, "Israel in Egypt"; Thursday afternoon, October 4th, Symphony concert, with soloists, including Timothe Adamowski, violinist, who will play a Saint-Saëns Concerto; Thursday evening, October 4th, Brahms' choral work, "Song of Fate," and Verdi's celebrated Manzoni "Requiem"; Friday afternoon, October 5th, Symphony concert, with soloists, including Madame Olga Samoroff, the festival pianist, who will play a Rubinstein number; Friday night, October 5th, artists' night. On this occasion Mlle. Elizabeth Parkina, soprano; Madame Louise Homer, contralto; Daniel Beddoe, tenor, and Emilio De Gogorza, baritone, will appear. A feature of the artists' night concert will be the appearance of Miss Bessie Bell Collier, violinist. She is a Cohasset girl, 21 years old, and is a favorite musician of Mr. Franz Kneisel, with whom she has studied ten years, she being the only pupil of this famous artist. She began the study of the violin when four years old and made her first concert appearance when she was five years old, playing a solo at a concert in Cohasset, December 31st, 1890. Unlike many musical prodigies, Miss Collier is of a joyous, healthy temperament, and although her playing is characterized by intense feeling, there is no sickly sentimentality in her make-up. December 19th, 1904, at the age of 19, she made her musical debut at Steinert

Hall, Boston, with great success, and since then has played to large and enthusiastic audiences in the larger cities. The fact of her youth, her remarkable ability and her decidedly prepossessing appearance, she is considered one of the features of the Festival and is honored with a number on the artists' night programme.

With two, or possibly three, exceptions, the engagements for the Festival have been made, and they are: sopranos, Mlle. Elizabeth Parkina, Mrs. Margaret C. Rabold and Miss Louise Ormsby; contraltos, Madame Louise Homer, Madame Isabelle Bouton and Miss Grace Munson; tenors, Mr. Paul C. W. Dufault and Daniel Beddoe; baritones, Emilio De Gogorza and Frederic Martin; pianist, Madame Olga Samoroff; violinists, Timothe Adamowski and Miss Bessie Bell Collier.

Of the choral works to be given, Brahms' "Song of Fate" has never before been given. It is a Goethe poem set to music by Brahms to illustrate the relentlessness of fate, and is one of a group of three composed by Brahms to illustrate the same idea, "Song of Destiny," "Nanie" and "Song of Fate." The former is Holderlin's poem, "Nanie" is taken from Schiller and "Song of Fate" is from Goethe's "Iphigenia."

Of the artists several are new to the Festival and Worcester. Mlle. Elizabeth Parkina, who shares honors with Madame Louise Homer in being the festival principals, is an American prima donna, a protégé of Melba, and made her début at Covent Garden, London. She is 28 years old, spoken of in London "as the faultless singer from the West." She studied in Paris with Marchesi for ten years, and also came under the tutorage of the great Melba herself. Madame Homer has been heard at the Festival on two previous occasions, and the critics accorded her the distinction of being one of the most popular singers who ever graced the Mechanics Hall platform at a festival. Of the other artists, Bouton has been heard before and is a favorite, while Gogorza is welcomed back, but Rabold, Ormsby, Munson, Beddoe and Dufault are new to the festival. And speaking of Dufault, the Festival Management is credited with a *coup d'etat* in engaging this young tenor. Admitting his exceptional ability as a singer, he is a Worcester artist, although New York claimed him a year or more ago, where there were larger opportunities. His wide circle of acquaintances and admirers will attract to the Festival added interest. He is to sing in Handel's "Israel in Egypt," and will probably be heard in one of the afternoon concerts.

Of the instrumental numbers to be performed, none will create more interest than the MacDowell suites. There is no composer before the world to-day more talked about than MacDowell. The mind of the favorite composer has drifted almost into oblivion and his condition has created a wave of sympathy that has resulted in the formation over the country of MacDowell clubs, and his works are being taken up by musical organizations and remarkable interest is being created in them. One of the saddest incidents in the musical world to-day is the passing of MacDowell.

About September 15th, there will be issued a handsome pamphlet telling the advance story of the Forty-ninth Annual Festival by word and portrait. From this pamphlet may be obtained fullest information of the season ticket sale and sketches of the artists who are to appear in the five concerts.

HARVARD'S OLDEST GRADUATE.

WORCESTER County has for many years claimed as its own the oldest Harvard graduate. There is always "the oldest graduate," but Rev. Joseph Warren Cross, who died August 18th in Lawrence, was the last of the famous class of 1828—the class that included Emerson, Winthrop, Bowditch and others famous in Massachusetts history.

Although a resident of Lawrence during the last few years of his life, Mr. Cross was for twenty years pastor of the little Congregational Church in West Boylston, and several of the happiest years of his life were passed in Worcester, and from this city he went with his daughter to Lawrence.

No resident of West Boylston was more dear to the old and young than Mr. Cross. Half of the old residents of West Boylston to-day were christened, married and their children baptized by him.

In the sixty years Mr. Cross was a resident of West Boylston, he was closely identified with the official life of the town. He was chairman of the School Committee twenty years, a member of the Constitutional Convention in 1853 and represented West Boylston in the Legislature in 1873.

In June, 1888, West Boylston celebrated his eightieth birthday. Committees were chosen from all the churches in town. The school children and the members of the high school, through their principal, John C. Worcester, gave Mr. Cross an album containing the autograph of every pupil in the schools in West Boylston at that time. An original poem was read during the celebration by Mrs. Augusta Cheney of Worcester. Many letters were received, among them a letter of congratulation from Harvard University. During his pastorate in that town he performed more than 700 marriages and attended even a greater number of funerals.

Rev. Joseph Warren Cross was born in East Bridgewater, Plymouth County, Massachusetts, June 16, 1808, a son of Epsom Cross, Epsom, N. H., and Margaret Bird Cross, Dorchester. Mr. Cross was one of eight children and he attended the district schools in Bridgewater.

He was fond of telling his many acquaintances of his early life and sometimes told the following anecdote:

"When I was a little fellow, four years old, an incident happened which made a lasting impression and which has followed me all the days of my long life. It was during the War of 1812. My father was a captain in a cavalry company. Rumors were abroad that the English were off the Plymouth coast and the Governor issued an order for the troops to assemble and proceed to the coast.

"My father ordered the members of his company to meet in his dooryard at sunrise on the following morning. They did so. The men in their gay uniforms, the horses, the bugles, the drum and the wild confusion and, more than all to my childish heart, the thought of my father going away, were too much for me and my sobs and tears could not be stayed by my mother.

"Finally I was promised that when my father came home from the war I should have a soldier suit made out of his uniform. When my father returned the suit was made and a picture taken which I have kept all my life."

This picture is now in the home of his daughter, Mrs. Mary Ryder, Lawrence, where Mr. Cross died.

When 12 years old, Mr. Cross was sent to the Latin school of Rev. Lemuel Capen, Dorchester, to be prepared for Harvard College. Here he remained two years, and then went to the preparatory school of Rev. P. H. Clark, Norton.

At the age of 16, Mr. Cross entered Harvard College, from which institution he was graduated in 1828. Of the class of 1824, Mr. Cross was the last one to survive of the fifty-three members of his class. Among the noted men of his

class were Hon. Robert C. Winthrop, Speaker of the House of Representatives; Dr. Henry I. Bowditch, late professor at Harvard; John J. Gilchrist, Judge of Supreme Court of New Hampshire; George S. Hillard, historian; Charles Chauncy Emerson, brother of Ralph Waldo Emerson, and many other noted men.

During Mr. Cross' first year at Harvard, General Lafayette visited the university. On July 4th, 1824, Hon. Daniel Webster gave a Fourth of July oration at Bunker Hill. General Lafayette was present. After the exercises the General came to Cambridge. He stood on the steps of one of the buildings and the college boys filed past him, each shaking his hand.

During the first year of his life at Harvard, Mr. Cross had rooms in old Massachusetts Hall, the second year in Stoughton Hall, and the third and fourth years in Holworthy. After he was graduated, Mr. Cross went to the Theological Seminary at Cambridge for a year, and then returned home.

In 1829 he married Miss Jane Cross of Norton. Soon after their marriage the young couple went to Cape Cod, where Mr. Cross was appointed principal of Orleans Academy, where he taught six months. From there he went to Chatham, where he was a teacher three years. During his residence there, Mr. Cross' wife and infant son died, leaving him alone at the age of 23 years.

While Mr. Cross lived in Chatham he occasionally visited his father in East Bridgewater. The journey was made by stagecoach. On one of these trips the stage stopped at Sandwich and drew up at the steps of the famous Tom Swift's Tavern. A number of men were standing on the piazza, as the resort was a famous one for sportsmen. The occupants of the stage got out, as there was a wait for an hour or so. While Mr. Cross was waiting, the proprietor of the tavern came to him and said:

"Young man, there is a man here who wants to talk with you. Come in and I will introduce you to him."

Mr. Cross went and was introduced to Hon. Daniel Webster, who was an enthusiastic sportsman, and came to Swift's Tavern every year for trout fishing and shooting.

"Mr. Cross," said Mr. Webster, "I am down here on a fishing trip, and I want to ask you if I can find a trout-way down on the Cape where you came from, and where?"

"There is good fishing at Chatham," replied Mr. Cross. "I have often caught trout weighing from half a pound to a pound near my home."

Before the two men said good-by, it was arranged for Mr. Webster to pass the next year with the young schoolmaster in Chatham. This he did, and the noted statesman and Mr. Cross became life-long friends during the summer. The two men went fishing in the streams and shot marsh-birds at Nauset Beach.

One night Mr. Webster invited the schoolmaster to his boarding place, and asked him to bring the pupils of his school with him. He did so. Webster gave the lads a talk on birds, having mounted specimens of his various subjects. The talk was enjoyed by the boys and closed with a story by Mr. Webster of shooting black ducks with southern men in the South, and deer in the heart of the Adirondack Mountains.

Among the hundreds of letters from distinguished persons preserved by Mr. Cross, was one from Daniel Webster, also one from Henry Clay.

After leaving Chatham, Mr. Cross determined to go into the ministry, and took a course of study at Andover Theological Seminary. While there, he met and married Miss Frances A. J. Vose, Brockton. During their residence in Brockton, Mr. Cross and wife both united with the Congregational Church. Mr. Cross was ordained at Boxboro, Oct. 1st, 1834, and remained there as pastor six years. Mr. Cross was then called to West Boylston, where he was installed as pastor of the Congregational Church, March 11th, 1840. He remained here as pastor until March 16th, 1859. After his resignation he remained in West Boylston for many years, leaving here in 1896, moving to Worcester.

For fifty years Mr. Cross owned and

occupied the house next door to the brick church in the valley, of which he was pastor for twenty years. After he purchased the house of Mrs. Lavina Bigelow, many changes and improvements were made.

While living in this house, since torn down and the site covered with grass planted by the Metropolitan Water and Sewerage, which owns the property, Mr. Cross' second wife died in 1870, and in August, 1873, Mr. Cross married for the third time, taking for his wife Miss Sarah P. Fletcher, West Boylston. Three children were born in this home, and one died there.

Mr. Cross loved his old home, and it was one of the saddest days of his life when he left it. It has always been his earnest desire that when death claimed him, he might be brought back to West Boylston and buried beside his loved ones.

The house in which Mr. Cross and his family lived so many years was one of the last to go, by order of the Metropolitan Water Commission, and the trees he planted in 1841 were some of the last to be felled. The site of the house is within a few feet of the new road which now crosses the Wachusett reservoir.

Mr. Cross had a wonderful memory. He well remembered the War of 1812, in which his father was an officer. He remembered the big wind of 1815, which swept over Massachusetts, destroying houses and forests as completely as does a western cyclone. In telling of the big wind he said:

"I was standing looking out of a window in my father's house in East Bridgewater when I saw the fearful wind strike a large tree some distance away and level it and its fellows to the ground. The following summer, 1816, was called the year without a summer, for there was a frost every month of the year, and the corn and other crops were all ruined."

Mr. Cross, although he had not attended a Harvard commencement since 1890, always kept in touch with his alma mater. Year after year he received an invitation from Harvard, but was not able to stand the journey and the excitement of the day.

On Mr. Cross' ninetieth birthday, June 16, 1898, there was great birthday celebration for him at the home of his son in Orange. Hundreds of congratulatory letters were received by Mr. Cross. One he kept and treasured was from Charles W. Eliot, President of Harvard University. It read:

"To Rev. Joseph Warren Cross:

"Dear Sir: I have heard that you complete your ninetieth year on the 16th of the present month, and that friends are preparing to congratulate you on this rare and extraordinary achievement.

"I regret very much that the operations of the Metropolitan Water and Sewerage Board will cause your beloved church and home in West Boylston to be wiped out of sight forever. I feel, however, that they could not disappear in a more worthy cause, namely, in order that a pure and sweet water supply may be furnished to a million of people without fail, through centuries to come.

"One who has traveled through countries where water is scarce and precious appreciates the complete dependence of civilized man on an adequate supply of wholesome water. Till I went to Egypt I never appreciated the full force of the phrase, "the water of life."

"Wishing you a happy celebration of your birthday, I am,

"Respectfully yours,

"Charles W. Eliot.

"Harvard University, June 9."

To the town where he lived for more than sixty years, the body of the respected pastor of former days was brought, the little church where he preached to the people so many years, but in the new church is a memorial window to his memory, and on Aug. 21 the people of neighboring towns paid their tribute of respect to the little minister who had preached to them the lessons of life. The mutual love of pastor for people, of people for pastor, was plainly apparent, although but a remnant of the old generation joined with the new in this last tribute of respect paid to a dear old man.

PROSPERITY OF A NATION.

A series of talks before the Worcester Republican Club during the winter and spring brought out excellent speakers on timely subjects. The speakers included William B. Scofield, Harry W. Smith, James Logan and Dr. M. G. Overlock. The latter was the last of the group of speakers and in a general way he furnished some interesting information. The following selections are made from this address.

POWER misdirected, whether by folly or wickedness, is responsible for the disorder and miseries of mankind throughout the ages, and power is always misdirected when it is aimed at any object inconsistent with common welfare. The cruel uses of power, which plunder and oppress mankind by cunning or by violence on an imperial scale, are only a form of private selfishness, which is willing to prosper by injustice and which organizes to usurp opportunities to which all have an equal claim. We are told that if the black man could have had the advantages of an education, that alone would have burst the bonds of slavery.

The characteristics of different generations change as unnoticeably as the generations themselves. Ideals transforming the spirit of a nation may come or vanish unawares, or as thieves in the night. In the perspective of years we recognize that ideals widely divergent actuated the generation preceding and the generation following the Civil War, but we do not so readily see the transformation of thought and activities equally significant, although less spectacular, which has taken place since the war.

The industrial expansion of the decade which followed the Civil War has no parallel, except in the decade just closing, each being characterized by progress and the creative spirit, rather than by order and construction. It may not be without profit to contrast the intellectual and social attitudes of the period defined by the panic of 1873 and the period succeeding panic of 1894. The dominant characteristics of ideals of the seventies may be described as theological and individualistic; of the end of the century as ethical and social. The former was a time when the only social or altruistic forces were supposed to emanate from the church schools. The young man or woman with an impulse to serve his fellowmen had no choice therefore outside the church—the school of charity. In this later day the worker and reformer are found in political and social endeavor, made possible by multitudinous municipal, charitable and social organizations.

Politics in the earlier period bore a stigma. In the last decade honor became a new conception of public responsibility and activity; the characteristic note of the new era is social. The public school system began to accommodate itself to the conditions of industry and life, abandoning the three R's and teaching the power of self-observation and self-reliance, cities and towns undertook the organization of improvement associations, free libraries, developed factory legislation, systems of street lighting prevailed, all expressing a changed conception of public life. In 1866 first steps were taken to found a public bath in Boston; in 1872 children's playground was instituted by vote of the town of Brookline, and in 1886 a vacation school was established in Newark, N. J.

A new social spirit is expressed and defined by these movements; participation in the life of the masses of the people rather than vainglorious attainment of the honor of conventional society becomes the ambition of a portion of the new generation. To the multitude are carried some of the fruits of prosperity, leisure and culture. From them are gained democracy, fraternity, freedom of social expression; with them is developed a new dynamic force capable of remaking the American community by inspiring the American citizen with a new civic spirit.

The industrial and social needs of each generation should determine the

character of the educational opportunities. We began our national existence with a belief in democracy, not merely the political idea popularized by Lincoln: "Government of the people, by the people, for the people," but a democracy which is expressed in the phrase: "Liberty, equality and fraternity."

The progress of education has given us a threefold educational ideal: education for occupation, education for citizenship and for manhood. When manual training is given in the grades from kindergarten, the student is ready upon entering the high school for a technological course. The technical schools of to-day are often neglecting the poorer youth, for whom they were designed, and becoming the training school for the professional worker. The technical high school of the future may still perform the service for the children of manual workers. If manual training has been an organic part of the educational system from the beginning, and then the workman of to-morrow may have not only the general training which makes him adaptable, but the special training which gives him immediate economic advantages. The vacation school is doing a great work towards the equalizing of opportunities. The children of the well-to-do come back from the shore or the mountains refreshed and strengthened; the child of the city returns worn and weak as a result of circumscribed environment of the summer months. He is no competitor for the child with superior advantages. The vacation school can do much for this class towards giving him an equal show.

Let us now consider briefly the education of manhood and womanhood. The development of free library system in the last decade is among the most marvelous of American educational advantages. Massachusetts, the banner state, has reached that happy condition, under the direction of the Library Commission, where only four tiny communities with less than four thousand people are without free library facilities, while there are nearly 7000 public libraries in the United States, containing 54,000,000 books. The free lecture system of New York City is doing great work. During 1890-91, in 200 lectures, it had 78,000 auditors, while last winter it reached the astounding proportion of one and one-half millions. Most of you are familiar with the work being done by our evening schools, so I will pass them, except to refer to the goodly number in attendance.

In the training of a citizen the most important building is the school-house. In Cooper Union, New York has a public institution unique in America, for at the present time we find thousands of young people who are forced to work by day taking lessons and acquiring an education at night. Hundreds of doctors and lawyers and men in other branches of science, music and dramatic recitals of the highest class are offered for small admission fees, but nowhere else is there a forum where the public questions are discussed as freely, the verdict given as fairly and the multitudinous voice of the people registered as effectively as in the meetings at the Cooper Union. And New York is on the verge of opening the most extensive library facilities in the world; the Merchants Association, hammering away at abuses in water supply, transportation and lighting. Municipal service advances while municipal spoils diminish. Progress is slow and costly, but the seeds of a higher civic life are maturing in greater New York, as well as other parts of our country.

The average man was never so profitably employed in the history of the world; the average man was never so well fed, so well educated; nor was the American republic ever so well established at home and abroad, or more beloved by its people.

Just a word upon the educational end in this decade. In addition to what I have already said regarding education, in 1870 there were only 6,871,522 scholars in the nation's public schools, while in 1904 American public school children numbered 16,256,038. During this time the average length of life has greatly increased, the national death rate grow-

ing smaller until to-day it stands at a lower figure than any European country except Norway and Sweden. America will lead the world with the establishment of a national health bureau.

The commercial stability of the nation is illustrated by the fact that in 1870 business failures of the country represented liabilities of $88,242,000; whereas in 1905, with the population more than doubled and the total wealth of the country more than tripled, the business failures amounted to only $102,676,172.

In 1870 the deposits in savings banks amounted to $549,874,358; in 1900 these savings banks deposits had increased to $2,389,719,959, and now $3,093,077,557. In the same period the number of deposits are given from $1,630,846 to $7,696,229, an increase of more than four and one-half times; yet the population during this time has not more than doubled. Yet we are told that a spirit of unrest is abroad in the land. President Schurman of Cornell says: "A waning Christianity, a waxing mammonism are the twin spectres of our age." Another says that the whole nation needs a new baptism of the old virtue of honesty, and doubts but little that the gigantic inequalities which the present system of distributing economic good has brought about here heartrending poverty, and there opulence of imperial despots will lead to modification of that system in the interest of society as a whole.

We hear the word criminals used. Can you tell me to-day who belongs to the criminal class? Do the insurance directors who bought stocks and sold them to companies in which they were directors, at high prices? Do railroad officials who break the law of the land and now stand convicted? Do coal carriers who did by agreement that which was against law? If so, it is the duty of the Republican party, its representatives and senators, both state and nation, to seize and strangle these few spoilsmen. And right here let me say that I believe all United States senators should be chosen by a popular vote; then, and only then, to my way of thinking, will the citizen and voter, be he Republican or Democrat, get the popular representation in our Senate. The criticism of to-day is not directed towards our House of Representatives, but towards our Senate. If we are struggling with the gospel of despair, why should it exist?

Since 1870 the population of the country has little more than doubled. In the same period the total wealth of the nation has increased from $30,068,518 to nearly $100,000,000,000. The public debt has been reduced from $2,331,169,956 to $989,886,772. The national debt of the United States is 11.91 per capita against 92.59; for in Great Britain, total money in circulation from $675,000,000 in 1870, to $2,600,000,000 to-day, representing 31.73 per capita against 18.65, N. B.; 19.79, Germany; 17.85, Canada; 18.46, Holland; 9.75, Italy; 3.36, Japan, and yet, as I said before, this country is in the midst of social unrest. Social problems of every kind and of every intensity are demanding solution. The vast expanse of our territory is at once our great opportunity and our danger. And the people forget that through the laws enacted by the Republican party, whose very watchword is progress, this great nation to-day stands pre-eminently above all other nations of the world. But it is in power and is likewise held responsible for this unrivaled spirit of unrest.

Let me say that if we are facing a national calamity, the Republican party has proven that it can always be depended upon to steer the old ship of the State free from the rocks, and has never asked for a pilot, either from democracy or socialism.

A church, and the principles of religion which it represents, should not be criticised because those who attend church use it as a cloak to further their own ends.

As members of the Republican Club, as Republicans, let me admonish you to use every effort in your power to elect those to office whose first act, in your belief would be to restrain unlawful combination of capital; one who would use

the muckrake on the breakers of the law who care nothing for the legitimate rights of the masses, but who, hastening to get rich, forget to be honest, generous or kind, who put all their ambition into the service of mammon, the least elected spirit that fell from heaven.

Remember that the promise of the Republican party is to construct and upbuild; remembering that cleanliness and decency are among the latest acquisitions, and that American life has not yet reached its farthest stage of development; remembering that many a gallant knight has fought beneath a rusty shield and still has overcome his foe; correct the evils that may have arisen in transportation, but do not forget that the system as established has created Chicago and St. Louis and peopled the West. Cleanse whenever necessary, but preserve. Remember if there are those among us who are too rich, the policy of the Republican party, which has given him his opportunity, has given comfort and solace to millions of prosperous people.

The first item in the common-sense creed is obedience. Do your work with a whole heart! Revolt is sometimes necessary, but the man who mixes revolt and obedience is doomed to disappoint himself and everybody with whom he has dealings. To flavor work with protest is to fail absolutely. When you revolt, why, revolt—climb, get out, hike, defy—tell everybody and everything to go to hell! That disposes of the case. You thus separate yourself entirely from those you have served—no one misunderstands you—you have declared yourself. But to pretend to obey and yet carry in your heart the spirit of revolt is to do half-hearted, slipshod work.

If revolt and obedience are equal, your engine will stop on the centre and you benefit nobody, not even yourself. The spirit of obedience is the controlling impulse of the receptive mind and the hospitable heart.

There are boats that mind the helm and boats that don't. Those that don't, get holes knocked in them sooner or later.

To keep off the rocks and reefs, obey the rudder. Obedience is not to slavishly obey this man or that, but it is that cheerful mental condition which responds to the necessity of the case, and does the thing without back talk—muttered or unexpressed.

Obedience to the institution—loyalty! The man who has not learned to obey has trouble ahead of him every step of the way. The world has it in for him, because he has it in for the world. The man who does not know how to receive orders, is not fit to issue them. But he who knows how to execute orders is preparing the way to give them, and better still—to have them obeyed.—The Philistine.

WORCESTER BOARD OF TRADE.

BANK BUILDING, 11 FOSTER STREET.

OPEN 8.00 A.M. TO 5 P.M. PRESIDENT'S HOURS: 1 TO 2 P.M. MONDAYS, TUESDAYS, WEDNESDAYS AND FRIDAYS.

PRESIDENT, WILLIAM A. LYTLE. VICE-PRESIDENT, GEORGE F. BOOTH.
TREASURER, H. WARD BATES. SECRETARY, HERBERT M. SAWYER.

Directors.

H. W. GODDARD,	WM. A. LYTLE,	GEORGE F. BOOTH,	F. S. BLANCHARD,
CHARLES L. ALLEN,	WM. H. COUGHLIN,	IRVING E. COMINS,	WILLIAM FORSBERG,
EDGAR REED,	GEO. B. BUCKINGHAM,	J. RUSSEL MARBLE,	CLARENCE W. HOBBS,
JOHN A. SHERMAN,	GEO. T. DEWEY,	THOS. T. BOOTH,	WINTHROP HAMMOND,
PLINY W. WOOD,	REGINALD WASHBURN,	GEORGE F. BROOKS,	JOHN W. HIGGINS.

Clerk of the Corporation, CHAS. PERKINS ADAMS. *Auditor*, CHARLES A. CHASE.

Chairmen of Committees.

Advisory—Rufus B. Fowler. Membership—Herman S. Hastings. Ways and Means—George T. Dewey. Manufactures—Clarence W. Hobbs. Meetings and Receptions—Irving E. Comins. Mercantile Affairs—J. Russel Marble. Transportation and Railroads—Harry W. Goddard. New Enterprises—George F. Booth. Municipal Affairs—George F. Brooks. Taxation and Insurance—Pliny W. Wood. Foreign Trade—Charles L. Allen. Statistics and Information—Reginald Washburn. Arbitration—John W. Higgins. Legislation—George T. Dewey. Publication—Rufus B. Fowler. Education—J. Russel Marble.

The Worcester Board of Trade wants to keep on file at the Secretary's office a complete list of places where floor space can be secured for manufacturing and business purposes. There are calls made every day for such information. The Secretary would appreciate it if every owner of a building in Worcester used for manufacturing or mercantile business would furnish particulars of what he has for renting purposes, and if land-owners would also file a list of available building sites. State owner, location, whether store or factory, amount of floor space, amount of power available and approximate rental. If it is land for manufacturing purposes, state owner, location, number of square feet, general dimensions, any building thereon; if so, give floor space, number stories, brick or wood, power plant with horse power, and purposes last used. Also give name of railroad near it and side-track facilities. Give price that can be used as basis of negotiation.

This information is for the use of the Secretary, and is not to be used for any purpose except to locate new or present business interests. No compensation is to be asked for any lease or rental that may be brought about by the Board of Trade.

Historical: Union Railroad Station first occupied August 15th, 1875.

George Jaques, who gave the land for a city hospital in 1871, and left the city the bulk of his property for its maintenance, died August 24th, 1872.

John A. Andrew nominated for governor at Republican convention in Worcester, August 29th, 1860.

First New England fair held in Worcester, September 3d, 1878.

Worcester Horse Railroad opened August 31st, 1863. A salute was fired at New Worcester; addresses were made in Coe's grove by James B. Blake, president of the road, Mayor D. W. Lincoln and others. An original poem was read by Judge Chapin.

The first meeting of the Board of Directors of Worcester Board of Trade after the summer vacation, is Thursday, September 13th.

Mr. Edward M. Woodward of the Woodward & Powell Planer Co. looks for unusual prosperity in the machine tool trade for the next year. The general condition of the country warrants that statement, for there is already assurance of a great wheat and cotton crop. By watching the wheat, cotton and iron output, conditions for the future can be gauged. Says he in an interview:

"An important factor for the good the coming year which must not be overlooked is the recent disaster in San Francisco. The city must be reconstructed, and as the earthquake demonstrated the fact that steel constructed buildings were earthquake proof, that will tend to increase the use of steel constructed buildings, which will keep our steel mills busy and have its effect on many other lines.

"There is also an indication that the export business in the tool machinery line will increase in volume. For the last few years there has been comparatively little of it, but now we are beginning to get inquiries, which means that they are getting in the mood to buy American machines again, or that prosperity is once again knocking at the door in Europe.

"It has been remarked that Japan should be a good field for our manufactures, and Worcester will have its share of that business if they use American machine tools. It is not a fact that in the machine line this has been the most prosperous year in the history of the trade. While we are well stocked up with

orders, buyers are not falling over each other to buy machines or paying premium prices as they were in 1880. That I think was the banner year. People who needed machines were glad to get them at almost any price that year.

"In 1898, 1899 and 1900, we had an unusually large demand for machines. That was not due to any boom in this country, but to conditions in Europe. The export business was tremendous, and our salesmen in Europe sent us orders which we could not fill in a year's time, and we so informed them, and sent the orders back, but they were returned with the request to fill the orders any old time, as long as they got the machines. Soon after 1890, the foreign trade dropped off, and has never been the same since. The firms over there were stocked up with machines that they could not sell, even at a great loss, and in a number of instances the machines were shipped back to this country.

"In looking over the history of business in the past, I am reminded that I was much impressed some years ago by the remark of a bank president of New Haven, who had spent the better part of his life in the banking business, and he was at that time past 60.

"He claimed that business prosperity went in cycles of ten years. That first would come three or four years of prosperity, and then a gradual depression, to be followed by a business revival on the tenth year. I then began to study conditions by the cycles, and found that he was pretty nearly correct, at least as regards the machine tool trade."

Hon. Rockwood Hoar, Mrs. Hoar, Mr. and Mrs. William E. Rice and Mr. Albert Rice sailed July 5th for Europe, and returned to Worcester August 25th. Congressman Hoar was a member of the Congress that did more business for the benefit of the country than any other Congress in history. His return from Europe early in August is made so that he may attend a vacation committee session which is to make a vigorous investigation into the election practices in one of the Maryland Congressional Districts. He has a vast amount of vacation work to do on other committees of which he is a member.

Hon. Arthur M. Taft, senator from Worcester, is looked upon as the probable successor of Senator Soule as Chairman of the Massachusetts Senate. Mr. Taft has been a member of the Legislature six years and his experience in the House and Senate has put him in close touch with business affairs of the State, and he is considered the leader of his party in connection with legislative matters.

Mr. William P. Taylor of Pottstown, Pa., has succeeded L. W. Rugg as educational director at the Worcester Y. M. C. A. Mr. Taylor has been teaching Latin in the Hill School at Pottstown, and is a brother of F. S. Taylor of Worcester.

The ice plant in connection with the Worcester Cold Storage and Warehouse Company will be completed this month, and Worcester for the first time will have an opportunity to use manufactured ice. As the uncertain conditions of late years make the price of ice during the warm months as equally uncertain, the springing up of ice-making plants in various sections of the country will relieve the threatened famines. The result will be that ice will be cheaper, far better, and with the supply that is harvested in the ponds and rivers the condition should in the future be considerably improved. There is quite a sentiment in favor of manufactured ice for sanitary reasons. It is announced that it will be September 15th before any ice is turned out of the local plant. The tank completion is in the hands of the York Manufacturing Company, a force of twenty men being employed night and day to get out ice for this season.

Worcester manufacturers are beginning to feel the effects of the San Francisco earthquake in a business way. Many orders are daily received for supplies of manufactured goods. The Matthews Manufacturing Company has an order for stove trimmings for San Francisco, and he is rushed getting it on the way. Speaking of the condition of business, Mr. A. T. Matthews says: "We are running with our full force of 100 men, and to our full capacity. We tried to increase the extent of the output recently by having evening shifts of men, but found that because of the fine work required on some of the machines the light was not sufficient to turn out the class of work we desired. We have a satisfactory amount of orders ahead and the demand for certain specialties is steadily increasing. This is especially so as regards bicycle fittings and roller skate wheels. We make the steel roller wheel in large quantities. Our above trimmings are, of course, used in large quantities all over the United States, probably the larger amount in the West. I usually visit our large customers in various parts of the United States during the winter, taking their orders. This spring, when I returned to Worcester, I found that we had more orders than I had secured, and could have run right along on the output required by the mail orders without filling our regular orders that are of standard goods, but of increasing quantities. Some of our product goes abroad, but not direct from our factory. We sell to exporters in New York and they export the goods. I believe the main portion of the goods exported go to Germany. In Philadelphia some time ago I came across a lot of German stoves with our trimmings."

Edson J. Quackenboss, acting chief clerk in the Madison Street freight office of the New York, New Haven & Hartford Railroad, has been made contracting freight agent, and W. A. Sweet of Pawtucket is made chief clerk.

THE WORCESTER MAGAZINE

Vol. IX. OCTOBER--1906 No. 10.

Magazine and Municipal Comment.
Judge Arthur Prentice Rugg.
The Citizen and the Fire Department.
What a Chamber of Commerce Can Do.
Board of Trade Notes.

DEVOTED TO

Good Citizenship and Municipal Development

PUBLISHED MONTHLY BY THE BOARD OF TRADE
WORCESTER, MASSACHUSETTS,
U. S. A.

$1.00 A YEAR. 10 CENTS A COPY

CENTRAL SUPPLY CO.

Steam and Gas Supplies

Wholesale and Retail

Wrought Steel
Cast Iron
and Brass

PIPE

All Weights
and Sizes
1-8 to 24 in.

Automatic Sprinklers

Brass *and* Iron Fittings

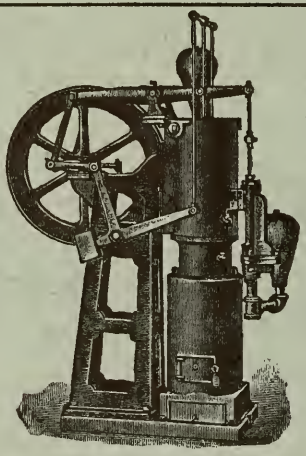
Tanks

Inspirators

Injectors

Traps

Hand *and* Power Pumps



Ericsson Hot Air Engines

Oil Filters

Wind Engines

Brass *and* Iron Valves

Towers

Pipe Tools

Railing Fittings

Pipe Covering

Hose, Etc.

The Leading Makes of

Steam and Hot Water Heaters

Radiators of all kinds and sizes

Send us your address and receive estimate (free) from responsible fitter for heating your home, store or factory.

Pipe cut to sketch. Complete Steam, Automatic Sprinkler and Heating Outfits. Pumps and Pumping Appliances of every description.

35 and 37 Waldo Street

WORCESTER, MASSACHUSETTS

MR. ARTHUR P. RUGG,
Worcester's Representative on Massachusetts Supreme Bench.

The Worcester Magazine.

VOL. IX. OCTOBER, 1906. NO. 10.

This magazine is published by the Worcester Board of Trade. Its reading pages are devoted solely to municipal development, good citizenship and the business welfare of Worcester. Space in these pages is not for sale.

MAGAZINE AND MUNICIPAL COMMENT.

Had Active and Honorable Experience

Governor Guild's appointment of Arthur P. Rugg, city solicitor, of Worcester, to the vacancy on the Supreme bench, occasioned by the resignation of Judge Lathrop, is doubtless a surprise to a large part of the public, but there seems no disposition anywhere to challenge its fitness. Mr. Rugg is one of the youngest men ever raised to that exalted position, and probably quite the youngest to be raised directly from the legal ranks, thereby jumping all the lower bench appointments; but he is as old within a year or two as the President of the United States, and has had an active, a broad and an honorable experience in various kinds of practice. Moreover, it is by no means unprecedented to appoint a man to the Supreme bench who has never held a judicial position, and when his qualities warrant it, it is likely to have a healthy influence upon the character and service of that distinguished body.

It is by no means the first time that Mr. Rugg's name has been considered or mentioned in connection with judicial honors, but his practice has been so lucrative that these suggestions looking to appointment to the Superior Court have had no encouragement from him. As City Solicitor of Worcester, a position involving judicial qualities, he has made a brilliant record, and his success in general practice has placed him among the foremost men of the bar in his section. The lawyers of Worcester County are much pleased with the selection, and so are the public of the same section, and the estimation in which a man is held by the people who know him best is one of the legitimate and perhaps most reliable tests of fitness.

When a man has ably and honorably acquitted himself in all the large responsibilities with which he has been invested, we have the warrant of both Scripture and common sense for expanding those responsibilities, and while a larger measure of proof will perhaps be demanded of Judge Rugg than though he had begun his duties lower down, we have small doubt that he will be equal to the test. Governor Guild has had rather more than the usual executive duty of judge-making during the eight months that he has been in office, but the standards of our judiciary have been well maintained and the ranks kept full. While New York is in the throes of doubt and apprehension respecting the character of her dispensers of justice, as a result of the coming election, we are

saved from all these uncertainties and perils by the safer and saner methods of selecting judges that continue to prevail in this State, and which we hope always will continue.—Boston Transcript.

Fortunes in Farming

At the fair of the Worcester Agricultural Society last month, Gov. Curtis Guild, Jr., was a guest, and made a short address, which was about the most meaty thing the Governor has said to the farmers for a long time. He produced some figures that are surprising, and they deserve to be spread broadcast over the country. He showed by figures that a single bushel of Massachusetts cucumbers outweighs in value the product of an acre of Kansas wheat. Governor Guild said:

Never has so much progressive legislation in Commonwealth and nation been secured as in 1906. Never was Massachusetts, never was our country as prosperous as it is to-day.

Worcester County is not only preeminent as a great centre of manufacturing, it is a great centre of agriculture. Its extent of territory cannot begin to compare with that enclosed by the boundaries of the great counties of the larger states, yet measured by value of product Worcester County, with its modest area, yet ranks fifteen in the long list of all the counties of the nation.

It is a common fallacy to call Massachusetts merely a manufacturing state with no agricultural interests. The old Commonwealth is the first agricultural state in New England. The value of the products of this little strip of earth was in the last census year over $42,000,000, an increase of 60 per cent. in ten years. The value of our products beats not only that of every state of New England, including the larger states of Maine, New Hampshire and Vermont, but in spite of our limited area we lead as an agricultural state the infinitely larger commonwealths, Florida, Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Idaho, Washington and Oregon.

Our Board of Agriculture has led the country in the work of farmers' institutes to show where old-fashioned failure may be replaced by modern success. Fruits show a profit where grain shows a loss. Peach orchards and greenhouses are taking the place of cornfields. A single bushel of Massachusetts cucumbers outweighs in value the product of an acre of Kansas wheat.

The same statement is true of a barrel of Massachusetts cranberries, of a half dozen boxes of Massachusetts roses, or of a coop of Massachusetts fancy poultry.

Farmers have to ship their products hundreds and thousands of miles. Raise what people want to buy to-day and not what their great-grandfathers bought yesterday, and in the swarming manufacturing cities of Massachusetts you have the best markets in the world—not across the ocean, but at your own front doors. That fact is rapidly being appreciated.

In 1880 the value of the product per acre of improved land in Massachusetts was $11.85; in 1890, $17; in 1900, $32.73. So let us cheer up and take courage. There are wrongs to be righted, but many have been righted. There are difficulties to overcome, but many have been overcome. There is success to be achieved, but much has been already achieved. Not by doubt of the future, but by inspiration from the past and courage in the present shall we uphold prosperity and progress in Massachusetts.

Trade Schools a Necessity

Various present-day conditions, writes John M. Herring, superintendent of the Builders' Exchange of Baltimore, make trade schools a necessity. In a number of mechanical trades the labor unions have undertaken to control, and, where the "union shop" obtains, do control the number of apprentices to be employed. This number is so small that, as the older mechanics die or become incapacitated, there will not be sufficient young mechanics to fill half the vacancies. Furthermore, the spirit of independence, which the true American boy wishes to exercise, refuses to be dominated by the

oppressive mandates of dictatorial labor leaders, who are unwilling that an honest mechanic should have the right to think for himself, and in consequence such boys seek other lines of employment, oftentimes ill suited to them. But elevate the standard of the mechanic socially and intellectually by giving the boy free of cost a reasonable amount of high school training combined with technical and manual instruction, and the mechanical field will become attractive to our ingenious youths rather than repulsive.

Having completed their scholastic course, a couple of years of practical experience in the shop or upon the structure will fit the young men of nineteen or twenty for positions of responsibility which they never would have filled, nor would they have had any ambition to try to fill, under the present gloomy prospect of the average apprentice.

The demand for skilled mechanics, expert engineers and superintendents in all constructive lines is increasing daily, and when I say that the instruction should be provided *free*, I mean that it should be included in the public school curriculum, so that the many boys whose talents are in this direction might have the same opportunity for a high course of training in their line as the city college boys, whose aims are for the most part towards professional or mercantile pursuits.

Should the equipment of such an institution (which ought to be very comprehensive in its scope) seem too expensive for the city to assume, let state aid be obtained, which just now is being considered in Massachusetts, and if not practicable to establish such schools in both city and counties, a number of free scholarships in the city school could be allowed the counties in consideration of the assistance given by the State. The success of the many technical and industrial schools throughout this country which have been conducted as private institutions, justifies the claim that they are a public utility, and as such should be conducted as other public institutions of learning.

The Citizen and the Fire Department

At the recent convention in this city of the Massachusetts State Firemen's Association a paper on "The Citizen and the Fire Department" was read by Mr. Irving E. Comins of Worcester. It contained much that was of particular interest to the fireman, but the point made by the paper was that in Worcester it cost more to prevent fires than it did to educate the children. More money is paid every year for the prevention of fires than for the maintenance of the public school system. This statement was backed by figures that are indisputable. Mr. Comins has as accurate and general knowledge of matters pertaining to fire departments and fire fighting as any man in New England, if not in the United States, it being a subject to which he has given careful study for many years. He has visited every city where there has been a general conflagration, and studied methods pertaining to the work of the firemen, and knows the detail of work on the part of the fire department at all of these great fires. He knows the needs of Worcester and every other city in New England for coping with fire, and also knows the water conditions so far as they relate to handling fires. His knowledge is so general that a paper by him naturally attracts attention of firemen and insurance men throughout New England. The Magazine this month prints his paper read at the convention, and believes it should be carefully read and remembered, particularly by that class of critics who throng the sidewalk at the time of a fire, and know how the work of checking the flames should be done.

Better Men Are Needed

What this city suffers for is brains in charge of her municipal affairs. Is it so difficult to secure them? Are there not in this city a dozen or so of men, generally esteemed and recognized as competent, who are willing to allow their names to be used for the next Board of Aldermen, on the tickets of each of the parties, in order that we may be given a fighting chance, at least, to elect the kind of men who ought to be elected? It is of no use

for us and for other newspapers to bewail existing conditions, or to oppose known incompetents seeking office—as we propose to do—unless some competent people shall also arise to be elected in the room of those we are, most of us, so sick and tired of. Of course, this involves a disagreeable sacrifice of comfort, privacy and all that. But we are convinced that it is sacrifice that good citizens ought to make, out of decent local pride and patriotism. And we would remark in closing that this very likely means the reader of these lines, personally and directly. If you, gentle reader, are the sort of man that we refer to, but are of that body of retiring natures, won't you come out? We need people like you, and if you won't help, we can do nothing.—Lowell Courier Citizen.

Take Time and Get the Best

Worcester has too many important interests at stake to trifle with the office of city solicitor. The retirement of Mr. Rugg to go to the Supreme bench of Massachusetts is a high tribute to Worcester, and an honor to its City Solicitor. When one considers the names of Goulding, Hopkins, Rugg, and the other equally able members of the Worcester bar who have held the office of City Solicitor, there should be a hesitancy in the selection of a successor to Mr. Rugg. It may be said that when Mr. Rugg took the office several years ago he was comparatively unknown to the City Council of that time, from a political standpoint. It is well that he was. Politics never should enter into the selection of a city solicitor, and Worcester has never had in this office a man who fell short of his mark. There are able lawyers in Worcester and a solicitor can be selected from a dozen names, but when the best can be secured the City Council should not stop short of the best. Sound in law and free from a political entanglement are two requisites that should be considered before the final vote is cast. There are some elections by the Worcester City Council that are far from creditable, and are too closely confined to party lines. Do not make such an error in electing a successor in Mr. Rugg.

Worcester's Tribute to the Talking Toy

"The Thirtieth Anniversary of a Great Invention" is the title of a contribution to the September number of Scribner's Magazine written by John Vaughan. The invention referred to is the telephone, of which Lord Kelvin said, after he had tested it at the Philadelphia exposition, it was a wonderful "talking toy." When Bell's telephone was offered to the exposition at Philadelphia the expert judges were on the point of refusing it room. Dom Pedro of Brazil examined it with interest, tried it, and praised it in terms which influenced the judges to allow it to remain. Considering how vital a factor is the telephone in to-day's business world, it is hard to realize that but thirty years have passed since Bell obtained his first patent, and but a quarter of a century since his great invention began to revolutionize commercial communication. It appeared as a public utility in 1877, when the first long-distance line, connecting Boston with Salem, was built. Then Boston and Lowell were connected, after the Boston-Salem line had had a struggling existence for two years. That is why Lowell is to-day the center of the New England territory so far as the telephone business is concerned. Since then its lines have grown in unprecedented bounds, and up to December 30, 1905, there had been issued from the United States patent office 7154 patents relating to it. Phenomenal expansion is suggested in a line when it is stated that in 1905 there were sent by telephone in the United States forty-one times more messages than were sent by telegraph, although the telegraph antedates by nearly forty years. In Europe, which is slower in adopting it, ten times more messages go by telephone than by telegraph. The United States is pre-eminently the land of the telephone. Berlin has one to every twenty-one families; Paris one to every twenty-two families, and London one to every fifty-eight families. Coming home to our own country, New York has one telephone to every twelve families; Boston one to every six families, and on January 1st, before the earthquake, San Francisco had one to every four families. Worces-

ter has one to every four families, based on a population of 132,000. So Worcester is up to date on telephone service as it is in everything else. Worcester is one of the foremost cities in the country to pay big tribute to the "talking toy," which thirty years ago was a mere plaything.

Are We an Hysterical People?

It is said, and there is a great deal of truth in it, that we are an hysterical nation. The people are easily moved by events to a sort of hero worship. An army officer a short time ago said there was no better illustration of this saying than in the case of Admiral Dewey when he returned from Manila, and later when the Japanese were fighting the Russians. The whole nation is moved by impulses, and latest example is the return from a tour around the world of William Jennings Bryan, who was given a great ovation in New York Harbor when his steamer reached port. It is said that was the most demonstrative reception ever given a returning American since the home-coming of Dewey after smashing the fleet of an enemy in a war.

In the case of Bryan there is considerable politics in it, because he is the probable candidate of the minority party for President another year. Aside from the political feature of the case is an apt illustration of the demonstrative spirit of this country. He comes home as a citizen of Nebraska and a traveller. From a political standpoint his position is a peculiar one. Champion of an impossible and now discredited issue, successfully nominated and defeated for the presidency, spurned by his own party, denounced by all parties, he now gets a welcome to his home shores such as no American returning from foreign travel has received in recent years. After leading to defeat and disrupting the party to which he belongs and which long ago declared it would have no more of him, he must have in his mind a curious collection of thoughts as he notes the turn of events, the strange reversal of opinion and the unforeseeable warmth of that party which so lately rejected him and cast him out. He has remained fixed in his radicalism, he has not changed in any particular, and the party has come to his ideas, after vowing less than six years ago it never would do so. Another illustration of the hysteria of the American people. He is the same Bryan, but his party has drifted once more. It is a climax, but one that is characteristic of the American people who are so easily given to hero worship. Was the statement of the army officer right when he declared that the people of the United States were the most hysterical on earth?

A Chapter in Banking

Mr. Edwin A. Stone of Boston has written a "Second Chapter in Boston Banking." He wrote the first chapter two years ago, and it created considerable interest at the time. He brings forward the question as to whether or not the savings banks of Boston are fulfilling to the largest extent the demands of the community; that is, whether such a beneficent system cannot with safety be so broadened that more of the public wealth will flow into these banks.

Mr. Stone believes that the system can be so broadened, and in two ways: (1) By a more systematic endeavor on the part of the managers of these institutions to encourage habits of frugality among the public, and by the dissemination of information regarding the desirability of savings banks accounts; (2) by an extension of the limit of deposits —this limit being now $1000, accumulation of interest being allowed up to $1600. This suggestion is interesting, but it will not meet universal approval from those closely identified with or interested in the Massachusetts savings banks. The author believes that such extension "would not help the so-called well-to-do to avoid taxation, as the average amount to the credit of each depositor (after ninety years of accumulation) is but $362.29."

Yet it is worth while noting the fact—as given by this author in one of his valuable tables—that out of a total state population in 1905 of 2,998,958, the

number of savings bank depositors was 1,829,487; also that while the average deposit to each account was in that year, as noted, $362.29, the amount of savings bank deposits per capita of the total state population was $220.67. Do not these figures show the apparent fact that a heavy proportion of the people of small means are already depositors in the state's savings banks? If this is the case, may it not fairly be asked how an extension of the $1000 limit to, say $3000 (as in New York), is going to increase the total deposits in the savings banks except through the drawing in of the savings of conservative investors who have considerable means—thus, it may be observed, going aside from the supposed aims of our state savings bank system?

On Oct. 31, 1904, of the total depositors at that time (1,743,187), only 11,685 had deposits in the savings banks of $1000 or more. The number whose deposits were of $50 or less was 1,376,119. The suggestion that the limit to savings be raised would very probably increase the total of deposits in the savings banks. But the question logically arises: Would not such an increase of business tend to place the savings banks more under the control, or influence, of men of wealth?—a development certainly at variance with the State's established principles. These are questions deserving the most serious consideration.

Put to Common-Sense Test

At the State convention of firemen in Worcester a few weeks ago, complaint was made against the mental examination to which firemen are subjected under the civil service rules. Governor Guild has lately brought about a reform in this respect, which deserves more credit than it has received. It is, of course, essential that there should be intelligence on the part of the fireman as well as on the part of any public servant, but qualification in geography, arithmetic, philosophy and the sciences is not so important as the test of ability and courage in meeting the problems which a fire fighter has to face. And the reform which the Governor has brought about is in the nature of making the examinations uniformly simple and practical. If the candidate is in good physical trim and has common sense, it will not count against him hereafter, if he cannot name the Pharaohs in order or describe the principal personages at the Diet of Worms. Ability to climb a pole hand over hand, and to put up a 75-pound dumb-bell will count for more than ability to recite the "Ancient Mariner," or to deal with the binomial theorem. In other words, under the reform instituted by Governor Guild, the examinations of firemen will test their fitness to go on the fire department rather than their ability to become high school instructors.

Chicago Wrests Fair Name from Boston

A Chicago official, W. Lester Bodine, superintendent of compulsory education, has it figured out that Chicago, and not Boston, is the educational and literary centre of America; that the Athens of America has been transferred from Boston to the Lake City. Because of this report by Mr. Bodine, Chicago naturally tilts her chin loftily and boasts that she has Boston, and the whole country for that matter, beaten and cornered in its freedom both from illiteracy and truancy. Well, Chicago will prove a windy and smelly sort of Athens, but if the honor of the name must be transferred, let it go to Chicago, for according to M. Bodine's figures she has rightly won it.

According to the Bodine figures, Chicago's percentage of illiteracy is but 3.9, while Boston's is 5.1. The Chicago truancy percentage is stated as but 1.70, and Boston's as 6.05. This is all very well as far as it goes, and if Chicago's chest takes added puffiness from contemplation of the figures, the best that Boston and other cities of the country can do is to seek what consolation she and they can find in contemplation of other things. There's the question as to whether literacy is of any particular value in Chicago, anyway, and the query as to what it leads to.

JUDGE ARTHUR PRENTICE RUGG.

[Arthur Prentice Rugg, lawyer; born in Sterling, Mass., August 20, 1862; son of Prentice Mason and Cynthia (Ross) Rugg; graduated from Amherst College in 1883, Boston University Law School in 1886; married in Worcester, Mass., April 10, 1889, Florence May Belcher. Admitted to bar in 1886; partner of Hon. John R. Thayer; was President of Worcester Common Council in 1895; Assistant District Attorney for Massachusetts Middle District, 1893 to 1897; City Solicitor for Worcester since 1897; appointed Justice of Supreme Court, September 14, 1906; confirmed by Governor's Council, September 26, and was sworn in as Justice of Supreme Court at Worcester, October 1. Mr. Rugg is the youngest man ever appointed to the Supreme bench of Massachusetts, with the exception of Judge Oliver Wendell Holmes, who went on the bench at the age of 42. Mr. Rugg is the first Worcester lawyer to be appointed on the Supreme bench since Gen. Charles Devens.]

IN appointing Arthur P. Rugg to a seat on the highest judicial bench in Massachusetts, Governor Guild has conferred upon Worcester the greatest honor that has come to her for many years. The Supreme Court of this State has a record for probity, dignity, soundness of decision, high standard of character and of legal knowledge, maintained without a break by its illustrious members from the day of the foundation of the Court to the present, that has won for the judiciary of Massachusetts the respect and admiration of every right-minded citizen of the United States.

To a citizen of the Bay State, a seat on the Supreme Bench should be as attractive a goal for his honorable ambition as, almost, the presidency of the nation. Indeed, strange though it may appear to an observing foreigner, but true, nevertheless, the exigencies of national politics having long since made the presidency a perfectly hopeless goal for a Massachusetts man to strive for, a place on the Supreme Bench of his native State is in fact the highest post of honor that a Massachusetts citizen can hope to attain. Further than this, the very selectness and exclusiveness, necessarily so, of the Supreme Court of Massachusetts, make of those chosen to its membership a most distinguished and august body. As in the case of the Immortals of France, there can be no preferment because of birth or political party service or the mere possession of vulgar wealth, for the membership of the Massachusetts Supreme Court. The men chosen to serve there must, within themselves solely, be their own endorsement. Measured by the severest standards that men can be judged by; their daily lives in the community scrutinized as with a microscope; their knowledge of law and of precedent tested as to its application in every phase of human activity; the utter absence from their conduct of any questionable entanglements whatsoever; freedom from the slightest taint of prejudice or bias; minds single in their devotion to the sacred cause of justice,—these are the attributes demanded by the position to which Arthur Prentice Rugg has just been called by the Chief Magistrate of Massachusetts. Such a call is a rightful source of undying honor to the recipient himself and to every member of his domestic circle. It is an honor to the town of Sterling which gave him birth; to the city of Worcester, where he found full play and ample recognition for his life's activities; to his brethren of the Worcester Bar, the youngest member of which should find in his elevation a source of fruitful inspiration for his own career. And no man or woman, no growing boy or girl in the Heart of the Commonwealth can fail to have a share in so high an honor as has been conferred on their neighbor and fellow citizen.

A review of Arthur Rugg's career from the dawn of his early manhood reveals a story of continued progress and unsparing work, supported by a vigorous constitution, which from the start he had the good sense to value and conserve. He developed a faculty of thor-

oughness in his work, no matter how slight or insignificant the cause at hand might be, which led him in the preparation of his cases to know no limit to the most careful research at midnight as at noon. And this care and thorough research made of his signed opinions as City Solicitor on many highly important issues so many Gibraltar rocks of legal soundness, against which the waves of the most formidable and able criticism have dashed in vain. It is gratifying now to know that the possession of these fine attributes as a lawyer and a man was not lost to the eyes of those whose high authority made it possible for them to give the young Worcester lawyer such splendid recognition.

In this appointment the truth is again proclaimed that there is no hiding hedge for character and genius. Given both, and it matters not how far in the rear of the big battalions of competition a man may be assigned; the watchful eye of the superior peering through the ranks quickly finds the faithful doer of his duty, however humble, and the advance to the front rank is as certain as the shining of the stars. From the day he earned his first fee in his office in the Walker building down to that important moment, as it is in the life of every lawyer, when he appeared to argue his first case before the Supreme Court of the United States, Arthur Rugg's motto has been "Thorough." With this as his guide and aim, his success came as naturally as water flows down a mountain.

Some day, when the real facts come out, it will be of interest to know how large a factor in the choice of Mr. Rugg for the senior bench of Massachusetts was his appearance last year before the United States Supreme Court at Washington. Those who were present on that occasion did not fail to notice the keen and close attention that was given by Justice Oliver Wendell Holmes to the argument of the young City Solicitor of Worcester. Mr. Rugg, it is true, lost his case in that trial; but may not it be equally as true that his able advocacy made a lasting impression on his distinguished fellow citizens from Massachusetts? and a word in high places from such a man as Judge Oliver Wendell Holmes would have much to do with the history of this appointment. Time may reveal the secret.

Judge-elect Rugg will take his seat on the bench at the right time of life to continue the progress that has marked his career at the bar. We are rapidly moving toward strenuous times, when great and grave problems will come up for solution and settlement before our national and state judiciaries. The keen judicial mind and careful research of Arthur Rugg will stand him in good stead in the performance of the onerous and important duties that shall be his after he takes the oath of office. That he will bear himself well in his exalted place need not be questioned. It requires no seer's gift of prophecy to venture the assertion that before many years have passed the name of Justice Arthur Prentice Rugg will stand high in the estimation of his fellow citizens as a fitting heir to the grand heritage of public service and judicial dignity and honor, rightly owned by the highest judiciary of this Commonwealth, and which have shed lustre on the fair name of Massachusetts from the first day of its organization as a court down to the present hour.

THE CITIZEN AND THE FIRE DEPARTMENT.

[Mr. Irving E. Comins read a paper before the Massachusetts State Firemen's Convention in Worcester in September, on "The Citizen and the Fire Department." This was one of the most interesting and practical papers read before the convention, and it is here published in full.]

IT was with much hesitation that I accepted the honor of addressing this gathering of practical firefighters, for, not being one myself, I felt that it would be decidedly improper for me to assume to tell *you* anything about fighting fire. Then it occurred to me that the average citizen on the sidewalk at a fire usually knows better how to manage that particular blaze than the skilled officer in charge, and frequently is not bashful about saying so, either at the fire, or more often afterwards.

I knew also that most of you have had considerable experience with sidewalk criticism and advice, and have learned to be good natured and nice about it. Then, too, I reasoned that you were bound to be amiable to a citizen, even if you felt really vexed, for you have to go to them for the money for your new apparatus, your extra days off, your new buildings, your increased salaries and your pensions, etc., and under those conditions even the most hardened fire eater will look pleasant, although what he has swallowed is decidedly bitter.

So I decided to accept your directors' kind invitation, but I will tell you confidentially that I have not been real pleasant with myself since for doing so. I wish now somebody would send in a general alarm.

Leaving jest aside, from a somewhat careful study of the means and methods of fighting and preventing fire during the last seventeen years in this city, and in most of the larger cities in this country and Europe, I felt that there were some facts and problems affecting both the citizen and the fireman that could be discussed with profit to all concerned and, without any claim to originality, I thought this would be an excellent opportunity to bring these to the notice of both citizen and fireman.

The first fact to which I shall call your attention is the enormous monetary loss caused each year by fires. The fire loss for 1904 was $250,000,000. This included the Baltimore conflagration. For 1905 it was $150,000,000, or an average for the two years of $200,000,000. What per cent. of this was made good by the insurance companies I am unable to say, but the proportion of insured loss to total loss in Worcester is from 75 to 80 per cent., and on that basis the owners of insurance policies in this country must have contributed at least $150,000,000 each year to make good.

Now the real striking thing about these figures is not so much their size, nor the appreciation of the enormous tax the country is paying yearly, but the fact that a very large per cent. of this loss is caused by negligence and carelessness on the part of the citizen. A neglect to enact and enforce proper building laws and to compel adequate individual protection in large and exposed districts where the conflagration risk is great, and carelessness in caring for all kinds of property.

But this tax is not all the citizen is bearing. He is maintaining more or less efficient and increasingly expensive fire departments. One hundred and fifty-one cities of over 30,000 population spent $30,650,000 in maintenance of fire departments in 1904.

Take the city of Worcester, for instance; probably not many of you or its citizens realize that it is costing them more each year to be protected from fire loss than it is to maintain its entire school system. Here are the figures:

SCHOOL DEPARTMENT.

Maintenance for 1905,	$507,886 00
Interest at 3½ per cent. on equipment and buildings,	89,000 00
Total,	$596,886 00

FIRE DEPARTMENT.

Maintenance for 1905,	$216,019 00
Interest at 3½ per cent. on equipment and buildings,	21,315 00
Total,	$237,334 00

Add to this amount the premiums paid for insurance yearly by the citizens, which I am informed amount to over $400.000, and are a part of the cost of protection from fire loss, and we have a total of $637,334, or about $40,000 more than the cost of our schools.

The cost of maintenance of the fire department per capita is increasing each year, as the following figures show: In 1880 the cost per capita in Worcester was 66 cents; in 1885 it was 71 cents; in 1890 it was 88 cents; in 1895 it was $1.37, and in 1905 it was $1.62, or an increase of 145 per cent. per capita in twenty-five years. And, unfortunately, the end is not yet. There are many things that the department needs badly, and if all or half of the recommendations of the Committee of Twenty of the Underwriters were carried out, I would not dare say what the increase would be. And if they should be faithfully provided, the city then would not be secure from conflagration.

This statement of fact is in no way a criticism on the local department for extravagance, for it is unusually economically managed. It is simply a necessity caused by the rapid growth of dangerous risks in the heart of the city that requires the maintenance of a large force of skilled men with the best of apparatus to be able to cope with a large fire.

What is true of Worcester is true of every place not located near enough to a large centre to get valuable and quick assistance.

Now this is the problem that will soon confront the fireman. It is going to be harder and harder each year to get the necessary appropriation. The public demand each year more efficient service and will scrutinize the fire loss more and more carefully. In congested districts the underwriters are already marking up the rates quite materially, which will quickly call the attention of the business community to the fire department. The citizen calls for more protection. The fireman calls for more money, and in the interchange of views there is much unpleasantness.

Now, in order to get at the reasonable and most practical solution of this dilemma, I am going to trace briefly the history of the improvements in fire fighting by the fire department, and show how well the fireman has done his part, and why he has improved it in this way. Then I shall tell you what the citizen has done in the line of fire protection and how he has assisted the fireman in his work. After that I am going to tell you what a few citizens, who have been thrown largely on their own resources for fire protection, have accomplished, and when I am through I think you will realize that there is much more to praise than condemn in the automatic sprinkler, and that hereafter your peace and comfort will depend largely upon this valuable little invention.

First, as to the development of fire fighting. The glorious days of the old volunteer fire company are fast getting to be a thing of the past. Commercialism has entered the department and the art is now getting to be a science where results are all that are looked for, and praised or criticised. The fireman quickly recognized the principle that the early attack of a fire was the prime object to be obtained. So, from the old way of running to the engine house and hauling the apparatus by hand, they provided horses. Then the fertile brain of the inventor furnished the steam fire engine in place of the hand tub. Horses were stabled in the fire-houses and one or two men were kept in the vicinity. Then some one was on duty all the time. Still they were slow and the inventor brought out the hanging harness and quick hitch. More time was saved. There was also delay in getting the alarm and confusion in locating the fire. The inventor was

called upon again and responded with the fire alarm telegraph. Fire alarm boxes were scattered in different localities that quickly gave the alarm and notified the firemen of the locality. These stations have increased in number and the system has been remedied of its early defects, until to-day there are very few seconds left to save from the time the lever is pulled in the box until the apparatus is on the way. Still apparatus was slow to reach the fire, and three horses were used on the heavy apparatus and two on the light wagons. In the meantime, more and more of the men were made permanent firemen, and always on duty, until to-day it is seldom that more than twenty-five seconds, day or night, elapse before the apparatus is on the way as fast as horses can go. New methods of fighting fire were introduced, and the chemical engine, with powerful, fast horses and light hose, easy and quick to handle and always ready without waiting for steam to be made, was adopted and put into service. Methods of fighting fire have been discussed and experiences told in gatherings like this. The firemen have been given every advantage to learn, and have been quick to adopt new ideas. In the larger cities drill schools have been established and everything done to have the men drilled and familiar with the quickest and most effective method of working. With the rapid growth of dangerous risks in buildings and consequent danger of very large and hot fires, the size of the engines has increased. Larger streams have been provided. Siamese connections, deluge sets and water towers have been invented and added to the equipment to meet the demand for a larger and more effective battery.

In such ways has the fireman nobly met the demands made upon him, and I think you will all admit that he is about to his limit. A few seconds can be lopped off in driving to a fire by the use of automobile apparatus, and improved apparatus may be some more effective, but in a large way the fireman has exhausted the field in his line. He has met the call made upon him and responded in a way to command the admiration of all.

On the other hand, let us see how the citizen has assisted in keeping down the fire loss. In the first place he has made the snappy parlor match that flies in every direction when lighted, and the kind that rats enjoy collecting and experimenting with in the quiet of their homes. The largest fire loss Worcester has had in twenty years was caused by a rat's curiosity. He has invented and sold to the public the gasolene stove, which is about as safe as a keg of gunpowder in a blacksmith shop; and the kerosene stove, which has the habit of increasing in activity when the owner is not looking. Then he has built flimsy buildings of the lightest of material and fitted them with nice little openings for the fire to spread in, called partitions. To still further help the firemen, he has put in stairways leading from one floor to the other, so situated that the fire could easily reach them. Then he puts in elevator shafts, dumb waiters and light shafts, and covers the whole with a highly inflammable coat of paint and varnish. He has built buildings with insufficient walls and supports, and when the fireman has trusted his life to them in the anxiety to save loss and surrounding property, they have failed him, and members of the City Government and delegations of his fellows have escorted his widow and children to his grave. After the funeral the authorities have gravely held an investigation to see if the chief and officers in charge were not to blame by allowing the men in the building. This has happened in this city. Basements and cellars are allowed to be filled with rubbish or to be stored with merchandise so closely that they are practically inaccessible, and here the city fireman usually gets his worst punishment.

Apartment houses are built that, with malice aforethought, could not be better arranged to either roast or smother its human colony in case a fire starts unnoticed. But the fireman is expected to unhesitatingly enter the smoke or scale the sides with ladders and rescue the occupants at the risk of his life. Building laws have been adopted that are a help in some ways, but more often they are violated.

Fire traps are allowed to exist in the heart of a congested district that are a menace to the neighborhood, and many an owner of a really well-constructed buildings pays an increased premium because of the menace in the buildings of his neighbor.

In Germany, I am told, there is a law which makes a man responsible for the damage a fire does if it spreads outside of his buildings. What do you suppose would be the result here if such a law were enacted? I will say, however, to the credit of the citizen, that many buildings have been erected in the last few years that are of a high-class, slow burning type, and it is to be regretted that such construction is not compulsory.

It gives me pleasure also to commend the citizen for the readiness with which he has furnished the money for fire department improvements and development. But, practically, it has amounted to this: the citizen has done more to increase the fire loss than he has to lessen it.

There is a class of men, however, whose plants are either so large or so isolated that they are obliged to be practically independent of outside help in their protection. Years ago the cost of insurance was so great, because of the lack of protection, that they determined to unite and insure their own plants. They formed what was called a Manufacturers' Mutual Insurance Company, and only those who were willing to provide the most thorough individual protection were allowed to hold policies. They employed engineers and experts to study and devise ways to most thoroughly protect their property. About this time the automatic sprinkler was brought out and was immediately made a part of their system of protection. New companies were formed and they continued their study and experimenting, sharing together the expense. They established a corps of inspectors to inspect each plant every few months and report its condition. Every fire was carefully studied and as the weak points of their system of protection were discovered they were remedied as fast as possible in the other plants until to-day the Association of Manufacturers' Mutual Insurance Companies have in their risks the most perfectly protected plants in the world. And the basis of their protection is the automatic sprinkler.

Let me tell you how well it has done its work. The nineteen associated companies in 1905 had in force $1,358,713,-365 of insurance on purely manufacturing plants, and I think you will agree that such plants are about as hazardous and dangerous as any. There were 799 reported losses, besides a great many fires where no loss was claimed in 1905, and the total amount paid out for both fire damage and sprinkler damage by water was $513,428 or thirty-eight one hundred thousandths of one per cent. In other words, for every one hundred thousand dollars worth of insurance, the loss was $38 or $380 for each million dollars insurance. In fact, the losses were less than five per cent. of the yearly premiums, and after deducting the expenses of operating, ninety per cent. of the premiums paid were returned to the policy holders in dividends.

Now I have told you of this, not so much on the account of low insurance upon hazardous risks as to demonstrate what *scientific individual protection* will accomplish when faithfully carried out, and it is admitted by all who know about these matters that these results would have been impossible but for the automatic sprinkler.

Most of you probably know about this valuable invention, but as there may be some who do not, I will explain briefly its workings. It is a little brass plug that is fitted to a system of piping connecting with an ample supply of water under pressure, either to a large tank at the top of a building or to the public water system, or more properly to both. There is a half-inch opening in this plug, closed by a metal disc. This metal disc is kept closed over the opening by a solder that melts at a temperature of 155 degrees, or higher for hot places like boiler and drier rooms. These sprinklers are placed on the ceiling, there being one for about every eighty or one hundred square feet. At the very beginning of a fire the heated air rises immediately to the top of the room and melts the fusible solder at a temperature

much less than that of boiling water. As the solder melts, the brass plate holding the disc and the disc drop from the opening. The water under pressure instantly follows, striking a deflector which scatters it in spray over a circular area of eight to ten feet radius from the sprinkler.

If it does not immediately check the fire the continued heat opens the next sprinkler and keeps a curtain of water in advance of the fire all the time, besides wetting the merchandise and preventing it from easily catching fire. Their effectiveness is only limited by the supply of water.

As I have mentioned before, the fireman's chief aim is to reach the fire at the earliest possible moment, and no expense is spared to save even seconds of time. *Here is a device that eliminates the matter of time and discovery altogether.* It is always present and waiting to douse a fire, providing the owner keeps it supplied with water under pressure. *It does not sleep on duty, nor does it patronize the saloon.* Any amount of smoke cannot lessen its usefulness. In buildings liable to freeze the pipes are filled with air under pressure, which keeps the water back until the sprinkler opens. The air rushes out and the water instantly follows. In order to prevent excessive water damage after the fire is out, most systems are provided with an electric alarm that is started the instant the water moves in the pipes. *It is a fire department in itself that neither eats, nor sleeps, nor draws a salary.*

Had the basement of the Hurst building in Baltimore been fitted with automatic sprinklers, the fire would never have spread beyond its walls, and the terrible experiences of her citizens would have been avoided.

The same is true of almost every great fire.

They are also used on the outside of buildings above each window and on the cornice, if inflammable, and when the water is let on, form a curtain of water against the glass on the side of the building.

In the Baltimore fire, outside sprinklers, with the help of two or three inside sprinklers, saved a large six-story department store which was in the path of the flames, while the adjoining building, unprotected, was totally destroyed.

In the Toronto conflagration, one of the important factors in finally controlling this conflagration was a four-story brick factory equipped with outside and inside sprinklers.

In Danville, Va., a large tobacco warehouse was saved by having its windows equipped with sprinklers. They were only fourteen feet from another warehouse that was totally destroyed.

They have also been of valuable service in fires in Amesbury, Athol, Chicopee, Milwaukee, Brockton, Muskegon, Stoneham. Cleveland, in two cases in Dayton and Leominster.

The examples of effective work of the inside sprinklers number among the thousands, and I have yet to hear of a case of failure to control the fire when they were properly installed and there was ample water supply. In the two mills in which I am interested, we have had at least ten fires in twenty years, each one which was controlled almost instantly, and no claim for damage has ever been made. The last one was in the gauze-room of a picker that was opening about three hundred pounds of cotton. Picked cotton is about like gunpowder, and it was lighted probably from a match in the stock going through the machine. Four sprinklers opened directly over the fire before the tender could leave the machine, and two more opened from the heat generated, although there was no flame within twenty feet of them. The fire was under control in thirty seconds, and in twenty minutes the burned and wet stock was taken out and a new lot was going through.

Gentlemen, I want to say right here that I have no interest in any way with any sprinkler or sprinkler company. In the study of your profession and in my own business of woolen manufacturing, I have become convinced of the great practical value of the automatic sprinkler. *I believe it is the only solution of the conflagration risk in the congested mercantile districts of large and small cities.* In towns where the fire depart-

ment is small and not on duty except upon alarm, I am sure it is the only adequate protection to its largest factories and mercantile buildings. I believe every cellar, elevator and light shaft in mercantile buildings and apartment houses should be required by law to be thoroughly protected by sprinklers fed by a tank of suitable size on the roof and connected as well to the street mains. They should have also steamer connections on the outside. The first company coming to a cellar fire could couple to this connection and know absolutely that their stream was going only where the fire had melted the heads, and that no matter how thick the smoke it was reaching the heart of the fire. The chief would know that if by any chance the fire worked into the elevator or light shaft, the sprinklers would open and flood them. In case of large buildings with great areas of floor space, every part should be thoroughly sprinkled and the systems inspected frequently by the officers of the fire department. It is about time the owner and not the public should pay for the extra protection required by large and dangerous buildings. Every additional engine company costs the tax payer from $8000 to $12,000 per year, and is a continuous expense. To a certain extent they are absolutely necessary, but when extra companies are called for, purely for the conflagration danger in the business districts, it is time to make use of the cheaper and more effective methods of protection. In this city, proper sprinkler protection in the mercantile districts would be of more value than the addition of several engine companies, and would not cost the city a dollar for maintenance. It would not be a hardship to the owner, for his decreased rate of insurance would easily pay excellent interest on the cost of equipment. If not, it is time that the mercantile interests organized a few mutual insurance companies of their own.

Gentlemen, I know there has been a feeling of prejudice against the automatic sprinkler among firemen for some time, due no doubt to cases where they have apparently failed, but I am sure that if you will study the cases where they are properly installed, you will be entirely convinced of their value.

As I have said before, the fireman has worked out his problem well, but he is near his limit, and it is time the citizen carried the good work still further in the effort to save lives, property and the great fire tax of the community. You are constantly in touch with the public and through you much can be done to bring about this work.

I thank you for your courtesy and kind attention, and if I have assisted in any way in your good work, I am content.

It is here, as it seems to me, that we touch upon a most important relation between a board of trade and municipal affairs. I can not think of a more useful function which this board could perform than to set out upon a permanent and systematic course of spreading among the people trustworthy information respecting what good city government would do for them, and how it can be obtained. Fortunately, the means for such a campaign of education is at hand. The publications of the National Municipal League are devoted to this very purpose. We need only to get them and to take steps for their systematic and judicious distribution among the people.—*Charles H. Hartshorne in address before the Jersey City Board of Trade.*

WHAT A CHAMBER OF COMMERCE CAN DO.

NO more striking tribute to the value in a community of a board of trade has ever appeared in print than is contained in an article in the August Outlook from the pen of Frederick C. Howe. The title of the article is "Cleveland's Education Through its Chamber of Commerce." He would indeed be a hopeless cynic who, after reading the remarkable narrative told so gracefully and so graphically by Mr. Howe, should rise from its perusal with a mind not wholly converted to the board of trade idea. He opens with the assertion that critics of the American city have entirely overlooked one big element in their appraisal of our municipal life in their failure to observe that large field of activity, which is voluntary, and which lies outside of the politically chosen agencies. This element includes the colleges, the libraries, the private schools and hospitals, social settlements, kindergartens, playgrounds, charity organizations, humane societies, and other activities, which, with propriety, might be and in many cases are under municipal control. These must be borne in mind, says Mr. Howe, in any fair estimate of the real achievements of our cities. They are as much a part of our common life as are the activities whose efficiency we so generally condemn. For, after all, the measure of a city's self is what it does for itself, and how well it does it, not so much the forms which it employs. The extent of a city's self-consciousness, how much it thinks of itself, is to be found not alone in the character of its council, or the efficiency of its police, health or street departments. It is to be found as well in the non-political activities, which, especially in an American city, go a long way to redeem its political failures. These voluntary agencies are, as a rule, admirably managed and they perform a distinct public service. But there is a failure in organizations. They are not yet co-ordinated under public administration. In other countries the things these agencies do are either not done at all or are under municipal control. In Glasgow and Berlin the town hall is the clearing house of all these semi-official activities. The town council is the natural repository of all these functions. As yet the American city is not sufficiently well organized to do this. Some day it will be. But we are still lacking in a big city sense. When we speak of the city in which we live we have not the same municipal consciousness that centuries of existence have given to the German or the Englishman. To them the city is a little republic. To us the city is a place where we happen to be: it is an industrial accident in which men struggle for a living, and occasionally vote for their officials, of whose very names they are frequently ignorant. The American city is this, but it is coming to be something more. It is rapidly changing and gives promise of redeeming itself at a tremendous pace. We are beginning to think as cities, to feel as cities, and to have a sense of the significance of city life. It is in the creation of a sense of a city, a feeling of unity and dependence, of common obligation and purpose that, more than any other commercial organization in America, the Cleveland Chamber of Commerce stands for.

The Cleveland Chamber is a chamber of citizenship. It is a clearing house of city affairs. It has stamped a sense of civic obligation upon Cleveland. It has taken her manufacturers, her merchants, her bankers, her professional men, out of their offices with their narrow industrial outlook, and compelled them to think in a social way. It has created a sense of obligation to one another and to the municipality.

In a few years' time the Cleveland Chamber of Commerce has compelled its sixteen hundred members to think about their city in a city way. And to-day its

members talk not so much all the time about bank clearances, tonnage, freight rates and business for their personal profit; they talk also street clearing, health protection, parks, public baths, schools, tenements, cheap light, heat and transportation for all the people. In a word, the Chamber of Commerce of Cleveland has created a civic sense among the city's business men, who usually take but little interest in municipal affairs.

Coming to a recital of what he calls the less significant activities of the Cleveland Chamber of Commerce during the year 1905, Mr. Howe cites the following: The working out of a comprehensive plan for the renaming and renumbering of the streets of the city; the promotion of a department of the city for the planting of shade trees on the streets, and their care by the city forestry department; the passage of an ordinance regulating vehicles; the bringing about of the use of granite instead of sandstone in the new Federal building in course of construction; the protection of fish in Lake Erie during the spawning season; the study of taxation in the state; the improvement of local transportation facilities; the development of an adequate system of dockage along the lake front for the protection of the city's commerce; the study of the public schools and the extension of their usefulness; the promotion of a new union station; the revision of the local sanitary code.

In addition to these activities which the Chamber of Commerce has in hand at all times, it encouraged the city to increase the number of district physicians so as to maintain a supervision of all the children in the schools. The corps of physicians now numbers twenty-six, and their work is so laid out that the school children of the city are properly cared for. Then the Chamber worked with a milk commission to secure pure milk as well as with the Anti-Tuberculosis League to secure a city hospital for consumptives. And, as a final summing up, Mr. Howe, reviewing the splendid progress that the city of Cleveland is making under this admirable system of co-operation between the elected municipal authorities and the Chamber of Commerce, speaks most hopefully of the city's future. The city, he declares, is finding itself rapidly. It is attaining self-government. How much the Chamber of Commerce contributed to this it is not necessary to measure.

The following paragraphs from Mr. Howe's article can be read with interest by members of Worcester Board, and for that matter by members of every Board of Trade. They can be read with profit by every voter and every person who has the interests of Worcester at heart:

"Cleveland is willing to pay the cost of good government, but insists that its schools, libraries, police, and fire departments shall be kept out of politics. And the Chamber of Commerce has stood for these things. It at least has created a civic sense among the city's business men, who usually take but little interest in such matters. It has made public opinion where it is most needed, and most efficient when it does come. A city with this spirit will never have very bad government.

"Cleveland, too, is a city that is always wanting something, and something big. And the things that it wants it wants very hard. It is like a lusty child. The Chamber of Commerce either reflects this attitude of mind or is the cause of it. Probably it is partly the cause and partly the effect. At any rate, the Chamber is always backing some big thing. And it does not confine its wants to local matters. Ten years ago it organized a movement for the reform of our consular service. Under the leadership of Mr. Harry A. Garfield, now professor in Princeton University, it caused a bill to be drafted for this purpose which was introduced into Congress. It then started out to organize other chambers and boards of trade, to promote consular reform. It called meetings and sent its committees to Washington year after year for the promotion of this purpose, which now seems in a fair way to be consummated. The Chamber has interested itself in the improvement of the great inland waterways of the nation, and follows legisla-

tion before Congress, which affects the trade and business of the nation.

"But its big work is, of necessity, local. There are more people from Cleveland before any session of the State Legislature wanting things and opposing things than from all the rest of the State combined. The Chamber of Commerce is quick to protest against any legislation of which it disapproves, and is equally urgent in the advocacy of measures which it believes to be in the interests of the city. Against all the bosses of the State, it worked for a school code, the members of which should be elected at large. Some years ago, when a uniform municipal code was being drafted by a special session of the Assembly, it kept its representatives at Columbus, urging a model city charter along the lines of the most advanced recent legislation. It secured an act enabling the city to cope with the tenement evil. It has promoted constitutional amendments—in vesting the Governor with the veto power, and for other purposes.

"Thus the purely civic functions of the Chamber have come to overshadow its commercial purposes. It has come to be largely a business men's city club. While it promotes wholesale merchants' excursions, looks after railway rates and advantageous shipping conditions, while it is watchful of commercial opportunities and advantages, these, in reality, have become secondary. They have become secondary without the Chamber acknowledging it. But the Chamber is, in fact, a clearing-house of municipal matters. It has had a long line of disinterested men as its presidents, whose sense of obligation to the city has been strong. About ten years ago the suggestion was made that the city had an opportunity to beautify its lake front and erect all of its public buildings into a splendid municipal whole. The proposal was generally approved, but the conflicting interests were so powerful that nobody believed it could really be carried through. It was a beautiful dream; but that the State Legislature, the County Commissioners, the City and School Councils, and the Library Boards would ever unite upon it seemed too idle a fancy to be taken seriously. But the Chamber of Commerce took the matter seriously. It believed in the dream. Legislative enactment was secured. The desired results were accomplished, and the undertaking is the most stupendous ever undertaken by an American city.

"The Chamber of Commerce has also been appreciative of the conditions of the poor. Possibly not in a fundamental way; but it was thinking of their condition, and that was something really big in these days when business is blamed for most of our political ills. At a time when the tenement problem was assumed to be confined to New York and Chicago, it undertook an investigation of certain slum districts for the purpose of determining the condition of the very poor of the city. A committee from the Chamber employed a trained secretary, and section after section of the city was personally studied by members. The Chamber finally published a report dealing with the question in an exhaustive manner. It was found that in certain parts of the city people were living at a density which, if continued throughout the entire area, would give the city a population of 20,000,000 souls; that, far from being free from it, Cleveland had a housing problem, which was constantly growing worse, and that it was the cause of vice, crime, and disease. While no final programme was worked out by the committee, a splendid building code, which was partially the result of its labors, was finally adopted by the City Council. The code limited the amount of space to be built upon; compelled a minimum of air space; prescribed the method of construction; made provision for proper sanitation and other matters. This code is looked upon as the model building code in America. A similar committee of Chamber members took up the matter of a health and sanitary code, which was carefully drafted, and has finally been adopted by the City Council. This, too, is probably the model sanitary code of America.

"In organization the Chamber of Commerce is a little democracy. Its

members elect a board of directors of fourteen persons, just as the city elects its Board of Aldermen. The Board of Directors then elect one of their members as president. From out its sixteen hundred members eighty standing and special committees are appointed by the president.

"The Chamber of Commerce is about the only commercial organization in America that has ventured to grapple with the franchise problem. In 1901 it made a thorough investigation of a street railway franchise which was about to be jammed through the City Council. The franchise was for twenty-five years, and was very unpopular. The Chamber of Commerce investigated the value of the street railway franchises then existing, and reported against its passage. The ordinance was defeated. Subsequently, in 1906, the subject remaining unsettled, a second investigation was made, and after a very exhaustive inquiry the Chamber committee worked out a renewal franchise for twenty-five years on the basis of a straight five-cent fare with universal transfer, and three tickets for ten cents without transfer privileges. The latter report has just been approved by the Chamber, but has not been considered by the City Council. In the same report the Chamber declared against municipal ownership as an experiment which the city should not at the present time enter upon. A similar adverse report on the municipal ownership of an electric lighting plant was made in 1903. At that time an ordinance was before the people for approval at an election authorizing the issuance of bonds for the erection of a plant, but it failed to secure sufficient votes to carry it. Since that time the city has come into possession of a small plant through the annexation of a contiguous village, which plant is now being enlarged for the purpose of lighting the city streets.

"What we all want is a city we can love and work for; a city which commands the service of its people because it serves the people in countless ways; a city that the citizens will talk about all the time, much, I fancy, as the Florentine talked about Florence in the days of Savonarola, much as the Glaswegian talks about his Glasgow to-day. Cleveland has something of this spirit. Her people talk policies, not parties—they vote so independently that the man loses caste who prides himself on voting a straight ticket. It is a city that is finding itself rapidly. It is attaining self-government. It has had good government for years. How much the Chamber of Commerce contributed to this it is not necessary to measure. For the glory of it all is not in who did it, it is in the fact itself."

One hundred and eighty years ago Bishop Berkeley, distressed at the failure of many of the reforms which he had advocated, and wearied by constant civil strife, turned his eyes toward the New World, hoping that here there would be found, if not a Utopia, at least a land of nobler traditions and ideals, and he wrote a poem prophetic in its forecast of the future America.

In material progress, in the general diffusion of knowledge, in the privileges and opportunities which belong to an American citizen, we have no doubt reached a plane more lofty than the good old bishop could have even hoped, but if he undertook to sing to us to-day a new song or speak to us another word, I believe it would be in this line: Enjoy, children of the New World, the luxuries, the comforts, and the privileges which I dreamed not of, but still further there remains a golden opportunity, which I trust that you may grasp. It is that mankind in this later day may look to your country, to the United States, to take the lead in the paths that lead to the world's peace.—*Hon. T. C. Burton of Ohio.*

WORCESTER BOARD OF TRADE.

BANK BUILDING, 11 FOSTER STREET.

OPEN 8.00 A.M. TO 5 P.M. PRESIDENT'S HOURS: 1 TO 2 P.M. MONDAYS, TUESDAYS, WEDNESDAYS AND FRIDAYS.

PRESIDENT, WILLIAM A. LYTLE. VICE-PRESIDENT, GEORGE F. BOOTH.
TREASURER, H. WARD BATES. SECRETARY, HERBERT M. SAWYER.

Directors.

H. W. GODDARD,	WM. A. LYTLE,	GEORGE F. BOOTH,	F. S. BLANCHARD,
CHARLES L. ALLEN,	WM. H. COUGHLIN,	IRVING E. COMINS,	WILLIAM FORSBERG,
EDGAR REED,	GEO. B. BUCKINGHAM,	J. RUSSEL MARBLE,	CLARENCE W. HOBBS,
JOHN A. SHERMAN,	GEO. T. DEWEY,	THOS. T. BOOTH,	WINTHROP HAMMOND,
PLINY W. WOOD,	REGINALD WASHBURN,	GEORGE F. BROOKS,	JOHN W. HIGGINS.

Clerk of the Corporation, CHAS. PERKINS ADAMS. *Auditor*, CHARLES A. CHASE.

Chairmen of Committees.

Advisory—Rufus B. Fowler. Membership—Herman S. Hastings. Ways and Means—George T. Dewey. Manufactures—Clarence W. Hobbs. Meetings and Receptions—Irving E. Comins. Mercantile Affairs—J. Russel Marble. Transportation and Railroads—Harry W. Goddard. New Enterprises—George F. Booth. Municipal Affairs—George F. Brooks. Taxation and Insurance—Pliny W. Wood. Foreign Trade—Charles L. Allen. Statistics and Information—Reginald Washburn. Arbitration—John W. Higgins. Legislation—George T. Dewey. Publication—Rufus B. Fowler. Education—J. Russel Marble.

The Worcester Board of Trade wants to keep on file at the Secretary's office a complete list of places where floor space can be secured for manufacturing and business purposes. There are calls made every day for such information. The Secretary would appreciate it if every owner of a building in Worcester used for manufacturing or mercantile business would furnish particulars of what he has for renting purposes, and if land-owners would also file a list of available building sites. State owner, location, whether store or factory, amount of floor space, amount of power available and approximate rental. If it is land for manufacturing purposes, state owner, location, number of square feet, general dimensions, any building thereon; if so, give floor space, number stories, brick or wood, power plant with horse power, and purposes last used. Also give name of railroad near it and side-track facilities. Give price that can be used as basis of negotiation.

This information is for the use of the Secretary, and is not to be used for any purpose except to locate new or present business interests. No compensation is to be asked for any lease or rental that may be brought about by the Board of Trade.

The next meeting of the Directors of Worcester Board of Trade will take place in the Directors' room, Thursday night, October 11. It is expected there will be a large attendance, as the season's work will be started and it is the intention to make this year a busy one for the directors and committees.

Historical.—October 1, 1801, corner-stone of the brick court house was laid by Isaiah Thomas; September 30, 1845, new court house was dedicated, with address delivered by Chief Justice Shaw.

October 1, 1839, Western Railroad was opened.

October 2, 1863, Worcester County Musical Society formed.

October 3, 1800, George Bancroft, historian, born on what is now Salisbury Street.

October 4, 1831, celebration of the 100th anniversary of the incorporation of the county.

October 5, 1843, death of William Lincoln, publisher of the history of Worcester.

In compliance with a clause in the new railroad rate law, requiring notice of any change in rates to be published thirty days before, the Boston & Albany division has sent out notices of the rates on the two-cent-a-mile basis, to go into effect November 1.

The changes between the principal stations are: Boston and Albany, $4, instead of $4.50; Worcester and Boston, 90 cents, instead of $1; Boston and Pittsfield, $3.05, instead of $3.40; Boston and Springfield, $2, instead of $2.23.

Registration for the evening high school has closed. There are now 420 pupils registered for the term, and the principal considers it the best looking lot of pupils he has ever registered. He said they are a remarkably high grade of pupils, and he said it has seemed to him the quality of pupils is growing decidedly better year by year. There are two classes in Latin, four in French, two in German, two in Spanish, two in English literature, two in stenography, two in bookkeeping, and one, at least, in the following studies: algebra, English grammar, geography, civil government, typewriting, civil

service, geometry, physics, chemistry, arithmetic, English composition, history.

By returns made by the last of the school census takers, to report at School Committee headquarters, Clerk Joseph Beals sees where there are several hundred more children of school age in Worcester than there were last year. The work is not entirely finished and will not be, Mr. Beals said, for three weeks. The enumerators tried several times to get the returns from houses in their districts, and in many cases failed. They noted these places on their reports and the truant officers will pick up the odds and ends.

There were twenty enumerator districts, each consisting of two precincts. The enumerators took the number of boys and girls separately between the ages of five and fifteen, and between seven and fourteen years. There are 22,161 public school pupils, exceeding the 1905 number by 500.

New England Telephone & Telegraph Company's new annex on Mechanic Street may be ready for occupancy by January 1, and possibly sooner. Division Superintendent Fred E. Waring is doing everything in his power to hurry the completion of the twin building. He is desirous of finishing his first year in the position of division superintendent to the satisfaction of both the company and the public and is urging the necessity of opening the annex in good time. A mammoth switchboard and table of subscribers' calls, which is to be set up in the new twin building, is arriving in Worcester piecemeal. The switchboard is to be the most elaborate instrument of its kind in the world. For several months, experts in the employ of the parent Bell Company have been at work on the Worcester switchboard, and it is not improbable that when it is set in operation, the experiment will be witnessed by some of the leading telephone magnates in America.

Besides being one of the biggest districts territorially in the New England Company's system, the parcel handed out to Division Superintendent Waring in the recent partitionment, is the most prosperous, containing more telephones than any other district and almost as many as three other districts combined. This does not include Boston, which did not figure specifically in the distribution of the section formerly superintended by James H. Barry, Lowell. In Worcester alone, for instance, there are twice as many subscribers than there are in Lowell.

Beginning Sunday, October 7, the week-day passenger train service on the New York, New Haven & Hartford Railroad between Fitchburg and Worcester, will be doubled, and there will be two trains each way Sundays in place of none. The three trains which have been running daily each way between Fitchburg and Worcester will be abolished, and on the new schedule there will be three through trains each way daily from Fitchburg to Providence, two through trains each way daily from Fitchburg to Putnam, Conn., and one through train daily each way betwteen Fitchburg and New London, Conn. The two Sunday trains will be through trains between Fitchburg and Providence. The New London train will connect at New London with the New York boat, opening up a new direct route from Fitchburg to New York. The air-line special between Fitchburg and New York will continue on the present schedule. The Taunton and South Framingham trains will also continue on its present schedule. In addition to the new passenger trains between Fitchburg and Providence, there will be two through freight trains each way daily.

By the improved train service the prestige which Worcester has long had as a terminal of the Providence & Worcester Division of the New Haven line, and of the Norwich line of the same road, will pass to Fitchburg.

The establishment of the new passenger trains will be followed by new mail routes, and Sunday mails between Fitchburg and Worcester and Providence.

Worcester is to have medical inspection in the public schools, for there is no doubt the recommendation of the Joint Standing Committee on Finance will be carried out by the City Council. It is not a question of having the inspection, for that is a State law, but of a sufficient appropriation for the work.

Under the law, every city and town must appoint a school physician for every public school within its limits, and the teachers must see that every child who seems to be in ill health shall have the care of the school physician. One physician can be assigned to several schools. The law strictly forbids expense to be incurred beyond the amount appropriated by a City Council or by a town meeting, and hence the interest, at the outset, in getting an appropriation large enough to accomplish something. But the second part of the law, that for an annual examination of the pupils for defective sight and hearing, does not require any expense.

Under the law, the examinations are made by the school teachers, and the material must be furnished by the State Board of Education. Directions for applying the tests are given by the State Board of Health.

Mr. Lee's campaign, which will be aggressive by reason of many letters to private individuals all over the State, will urge that school committees be interested in the subject as much as possible, so that they may follow up the teachers and make sure the inspections are carried on. It is the purpose of the law to have a general watchfulness exercised over the physical condition of the children so that their education may be prosecuted under the most favorable circumstances and so that the schools may turn out children as robust in body as they are well trained in mind. In Worcester fifteen physicians have been named to look after the work.

THE WORCESTER MAGAZINE

ol. IX. NOVEMBER--1906 No. 11.

Magazine and Municipal Comment.

Trade Schools Necessary to Industrial Education.

Education Conditions and Results.

Business Suggestions for the Merchant.

DEVOTED TO

Good Citizenship and Municipal Development

PUBLISHED MONTHLY BY THE BOARD OF TRADE

WORCESTER, MASSACHUSETTS,

U. S. A.

1.00 A YEAR. 10 CENTS A COPY

CENTRAL SUPPLY CO.

Steam and Gas Supplies

Wholesale and Retail

Wrought Steel
Cast Iron
and Brass

PIPE

All Weights
and Sizes
1-8 to 24 in.

Automatic Sprinklers

Brass *and* Iron Fittings

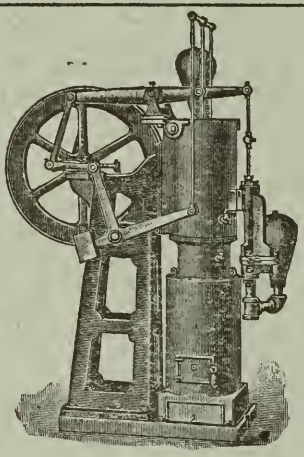
Tanks

Inspirators

Injectors

Traps

Hand *and* Power Pumps



Ericsson Hot Air Engines

Oil Filters

Wind Engines

Brass *and* Iron Valves

Towers

Pipe Tools

Railing Fittings

Pipe Covering

Hose, Etc.

The Leading Makes of

Steam and Hot Water Heaters

Radiators of all kinds and sizes

Send us your address and receive estimate (free) from responsible fitter for heating your home, store or factory.

Pipe cut to sketch. Complete Steam, Automatic Sprinkler and Heating Outfits. Pumps and Pumping Appliances of every description.

35 and 37 Waldo Street
WORCESTER, MASSACHUSETTS

MAIN AND FOSTER STREETS—FIFTY YEARS AGO AND NOW.

American Temperance House.
Continental Hall.
Worcester County Institution for Savings.

The Worcester Magazine.

VOL. IX. NOVEMBER, 1906. NO. 11.

This magazine is published by the Worcester Board of Trade. Its reading pages are devoted solely to municipal development, good citizenship and the business welfare of Worcester. Space in these pages is not for sale.

MAGAZINE AND MUNICIPAL COMMENT.

Residence, Hotel, Church and Bank

The Magazine this month presents as a frontispiece three buildings which play an important part in the business transition at the corner of Main and Foster Streets. The upper picture is that of the American Temperance House, at the northeast corner of Main and Foster Streets, originally built as a private residence by Hon. Alfred Dwight Foster, father of Judge Dwight Foster, who was on the Supreme Court bench just after the war. The middle picture is that of Continental Hall, on the opposite corner, built in 1843 as the First Universalist Meeting-house, and vacated by this religious organization in 1871, when the Pleasant Street church was finished. The bottom picture illustrates the new home of the Worcester County Institution for Savings, built during the past year, and occupied Oct. 29 of this year. These three pictures illustrate three-quarters of a century of one of the most central business corners in Worcester.

The American Temperance House property is well remembered by the older residents of Worcester. John W. Stiles of Templeton bought the property on Main Street in this vicinity in 1820 from Captain John Stanton and Thomas Stevens, and it included land on what is now both sides of Foster Street. He sold the northeast corner to his son-in-law, Hon. A. D. Foster, and the latter, in 1830 built upon it a brick residence. His brother-in-law, Samuel N. Burnside, built a residence north of Mr. Foster's, in which he lived for several years, and which is now the site of the Burnside Building. About 1835 Mr. Burnside built the residence on Chestnut Street, now owned and occupied by H. H. Bigelow, and Mr. Foster built a residence on adjoining property, now owned and occupied by W. W. Johnson. That year Foster Street was opened as a public thoroughfare, and the Foster residence was remodeled as the American Temperance Hotel by the building of two wings at the rear. The proprietor was Eleazer Porter, and the subsequent proprietors were R. W. Adams, Col. Warner Hinds, General Heard, and Tucker & Bonney. As shown in the illustration, the hotel set far back of what is now the line of Main Street. Broad piazzas were constructed on the front of the main building and on the Foster Street side of the wing. The hotel was discontinued in

1857, and the building was converted into business property, known as the American House Block. The first occupant was J. B. Lawrence, who occupied the upper stories as a furniture store, and in this corner the furniture business has been carried on ever since, until about two years ago, when the Pinkham & Willis Company retired from business. What was formerly the American Temperance House to-day is one of the prominent department stores of the city. At this hotel had been entertained many notable people, including President Martin Van Buren and the poet, John Greenleaf Whittier.

Continental Hall, on the southeast corner of Main and Foster Streets, was also, in earlier years, residence property, and what is now the Worcester National Bank Block site was a garden. The property was purchased by the Boston & Worcester Railroad Company, and in 1843 this company sold to the First Universalist Meeting-house proprietors the corner lot, upon which was built the First Universalist Meeting-house, which until two years ago was one of the familiar landmarks of the city. The original incorporators were Samuel D. Harding, Joseph Pratt and Edward B. Rice. The stock of this corporation, which naturally became of great value by reason of the business growth of the city, remained in the hands of the heirs of these incorporators, and eventually went into the possession of a limited few persons. What was purchased sixty or more years ago for about $6000 was sold within two years for more than twenty times that amount. Soon after the First Universalist worshippers moved into their new church in 1871, the Worcester Continentals leased the hall and occupied it as an armory until the building was demolished less than two years ago.

To keep pace with the tendency of the times, the wealthiest savings bank corporation in Worcester takes this corner for its future home. The Worcester County Institution for Savings has erected an exclusive bank building, costing upwards of $100,000, and representing an investment of upwards of $200,000. It is of granite, of attractive architecture, and as a result this section of Main Street stands out with particular prominence on account of this striking architecture and general design of this building. Of the many changes in Worcester's business growth throughout its trading centre, there is none more important than those that have taken place on and around the corner of Main and Foster Streets.

Mechanics Hall is Not a Death-trap

It was unfortunate that the District Police did not report the result of their investigations on the condition of some of the Worcester churches before Rev. Frank Crane of Union Church pronounced his condemnation of Mechanics Hall as a place for the gathering of large crowds. There are sufficient exits in Mechanics Hall for people to get out if one takes the trouble to locate them. The pulpit editorial on the possibility of a "massacre of little innocents" in connection with Mechanics Hall, given by Rev. Mr. Crane, did not help the reputation of Worcester to any great extent, and there was little call for it. It was entirely unjust to make a comparison between Mechanics Hall and the Iroquois Theatre in Chicago, which was not completed, was filled with inflammable scenery and crossed and recrossed with electric wires, when the burning and terrible loss of life took place during the performance of a spectacular musical comedy. Mechanics Hall is as near fireproof as any hall in this country; it has no scenery or draperies to catch fire; it is heated by steam from a boiler room some distance away and is lighted by electricity. It is provided with ample exits and fire escapes, and the stairways and approaches are broad and ample. The Worcester correspondent of the Boston Herald, who criticised Rev. Mr. Crane, offered the statement that Mechanics Hall was as safe as the church in which the reverend gentleman preached his sermon and gave his editorial. Mechanics Hall is *not* "an ideal place for as awful a holocaust as ever congealed the blood of men."

Ernest H. Vaughan Elected City Solicitor

The Republicans of the Worcester City Council united on Mr. Ernest H. Vaughan, of Blackmer & Vaughan, to succeed Judge Arthur P. Rugg as city solicitor. Mr. Vaughan stands high among Massachusetts lawyers and maintains the standard of ability that has always characterized this important office. There is no criticism of the action of the City Council in this respect, although there were several candidates presented to the Republican caucus, and three or four ballots were taken before the decision was made.

Mr. Vaughan stands very near the head of the Worcester bar, and is capable of maintaining the cause of the city against the able lawyers he will have to meet in the litigation which is likely to arise over the taking of the waters of Asnebumskit Brook for a water supply. He may also be depended upon to see that the city's interests are safeguarded in the matter of the abolition of grade crossings.

It is generally believed that all the questions in dispute between the city and the railroads in the grade crossing matter have been definitely settled, but in view of what has happened in the past, one can never be quite certain that the railroad officials may not have some new schemes in mind. The work of the engineers in drafting the specifications to be embodied in the final report of the grade crossing commission, which will form the basis of the decree of the court, is now well advanced. In fact, the city's part of it was finished six months ago. Unless something unforeseen happens, the report will be made to the court before the close of the present year. With reasonable expedition on the part of the railroad representatives, it ought to be ready now. The city is getting impatient for something to be done, and probably one of City Solicitor Vaughan's first official acts will be to inquire as to what is causing the delay.

That all three of the railroads are now in earnest in their desire to have the Worcester crossings abolished, there is no longer any doubt. The Boston & Albany people ever since the passage of the special grade crossing act in 1900 have been ready to go ahead, but there has been considerable local scepticism as to the desire of the New York, New Haven & Hartford to expedite matters.

Worcester is Advertised by its Festival

Worcester is advertised in many lines. As a manufacturing city it is known over the world. As an educational city it is known on account of Clark University and College, Holy Cross College, Worcester Polytechnic Institute, its preparatory and public school system. As an art centre it is known on account of its museum endowed with $3,000,000 under the will of the late Hon. Stephen Salisbury. As a musical city it is known the world over on account of its annual music festival, which has been given for forty-nine consecutive years, and now enters upon its golden jubilee. In the foreign centres Worcester is known by its music festival, one of the most prominent in the world. Its annual event calls to this city critics from the leading papers of the country, and in every city in the land lovers of music read for a week or more the criticisms of a festival that is taking place here. As an advertising factor the festival is important.

This year the festival was more than usually fortunate in attendance. Its finances are satisfactory to the management. To give this festival, costing annually upward of $10,000, is considerable of an undertaking, and requires lots of courage on the part of a small coterie of enthusiasts who undertake the management. To balance an expenditure of about $10,000 with receipts of three or four days means that the management has got to depend largely, in fact almost entirely, upon the liberality of the public. This year the public was liberally inclined toward the management, principally because an attractive programme of concerts was offered. There is too much of the idea of getting value received in Worcester. The citizens do not go into their pockets to any noticeable extent and give to any undertaking that brings Worcester before the world by so doing. It is worth something to every person in Worcester to

have the world talking about this city, and it is not always a hardship to charge off something to advertising.

Worcester as a Convention City

The closing week of October brought Worcester into wide notice as a convention city. This is a healthy sign, for thousands of visitors are brought to a city which has a reputation as a good convention city. The Christian Endeavorers brought several thousand followers of the idea of Rev. Dr. Francis E. Clark, who founded this organization not so many years ago. The Daughters of the American Revolution also selected Worcester as the ideal place for a state conference, and only a few weeks ago the firemen from all over the State came here and were well entertained. This month the State charity workers are to visit the city, so that Worcester will get a variety suited to all during the season. This whole planning for conventions is done from an advertising standpoint. Every city does its best to get the representatives of various organizations, religious and secular, to come to its home for a conference. It is a business proposition, for when thousands of persons go back to their homes and talk about Worcester, it means that tens of thousands become interested, and ever after the name of Worcester strikes on their hearing with a welcome sound, and it brings out some kind remark about Worcester and its hospitality. Worcester should appreciate this convention idea, and should make an effort to be hospitable, for it does not take many people to give a city a name that will injure it. The drift of the times is toward advertising, and there are various ways of doing it. One way is to make it a convention city.

Worcester as a Way Station

Making Worcester a way station on the line of the New York, New Haven & Hartford Railroad does not cause half as much worry or criticism as one would think when the importance of this city as a manufacturing and shipping centre is considered. The action of the New Haven road two weeks ago in putting on through trains to run from Providence and from New London through Worcester to Fitchburg has been taken as an earnest of the intention of the New Haven, under its new management, to make north and south through rates in connection with the Boston & Maine in accordance with its promise two years ago, when it asked that the Union Station plans be changed so that it might be possible to secure the desired close connection. The New Haven road has not put any new trains on its roads leading south from here, but six of the passenger trains on its Providence and its Norwich lines, and two of its freight trains, instead of stopping here are run through to Fitchburg over the Boston & Maine iron to Sterling Junction. These are in addition to the regular air line New York train, which runs to Fitchburg, and its summer New York and Bar Harbor express, which runs through Worcester, Nashua and Portland.

As before stated, Worcester people are not very much concerned over the fact that Worcester has been made a way station so far as these new trains are concerned, but some of them are naturally concerned over the multiplication of trains over the grade crossings on the Boston & Maine between Union Station and Lincoln Square and Garden Street.

Another feature of the new through traffic which causes north-enders to worry a little is that Lincoln Square is only a flag station under the new arrangement. The new trains going north do not stop unless passengers give notice that they wish to take them, and going south they stop at Lincoln Square only when the conductor is notified that a passenger desires to get off there. The New York & Fitchburg express trains and the Bar Harbor express do not stop at the square going in either direction.

The result of the new arrangement is likely to be a dozen or more trains going through Lincoln Square, some of them in the evening, at express speed; whereas, under the old arrangement, every train used to make the stop at the Lincoln Square station and go over the

crossing at very slow speed. Under this condition of affairs the popular demand for the abolition of the crossings on the Boston & Maine Railroad will follow very promptly the abolition of the crossings on the southern roads.

These northern crossings, as everybody knows, were not included in the scheme which the city urged upon the Legislature in 1900, because there was so much opposition by heavy tax payers in Worcester to their abolition. The representatives of the city presented a plan to the Legislature for the abolition of these northern crossings, but were forced to withdraw it or face the opposition of influential citizens to the whole scheme, which opposition, combined with that of the railroads, would have been fatal.

Savings Banks and Industrial Insurance

A recent address before the Boston Twentieth Century Club on the topic of industrial insurance will at least serve to open discussion on the subject. Figures are cited to the effect that if a man, beginning with his twenty-first birthday, pays throughout life fifty cents a week into a Massachusetts savings bank, and allows these deposits to accumulate for his family, the survivors will, in case of his death at this average age of 61¼ years, inherit $2265.90, if an interest rate of 3½ per cent. a year is maintained. On the other hand, the point was made, if a man should, beginning at the age of majority, pay throughout his life the fifty cents a week to an industrial insurance company as premiums on a so-called "industrial" life policy for the benefit of his family, the survivors would be legally entitled to receive, upon his death at the age of 61¼ years, only $820. It was explained that the cause of these startling different results is this: While the expenses and dividends of the great industrial companies consume nearly 50 per cent. of the year's premiums, the expenses of the savings banks amount to less than 1½ per cent. of the year's deposits. They have the principal intact and let it increase by nearly 4 per cent. yearly interest on the average. The gist of the argument, then, is that in effect industrial insurance is merely a form of savings investment. The savings banks manage the aggregate funds, made up of small deposits, until such time as they shall be demanded by the depositor—the insurance company ordinarily until the depositor's death. The savings bank pays back to the depositor his deposit with interest, less the necessary expense of management. So, concludes Mr. Brandeis, the speaker:

How easy it would be for the Massachusetts savings banks to lead the holders of their 1,829,487 deposit accounts to devote a part of their savings to securing desirable life insurance. No huge commission to solicitors would reduce their hard-earned savings. No huge collection fee would be required. A single order on the bank to apply a part of the savings to paying the premiums would be sufficient. When wage-earners can get safe insurance at half its present cost applications will be numerous and lapses few.

Growth of the Electric Sign

New York is said to be the most brilliantly illuminated city in the world. Figures recently compiled show that she consumes four times the amount of electric current used by the greater city of London, and she far outdistances all other cities of Europe or America. While this is due in a large part to the generous use of electricity for street and building illumination, an important factor also is the tremendous growth in the use of the current to talk business at night. The number of signs that make the night sky of New York luminous has increased fully sixty per cent., according to the city authorities, within the last year. Over the twenty-two square miles in Manhattan Island there are some three thousand electric signs of all sizes and descriptions. To make up their glaring talk and to voice with illumination signs and windows that formerly lay dark and dead, no less than one hundred thousand lights are set sparkling each night all over the island. To supply with current the signs of New York, the generating plant

of a good-sized town would be continuously required. To make up the largest illuminated sign in the world, only twelve hundred lamps of four-candle power each are used. When it is considered that the initial letter of this sign is sixty feet high and a corresponding width, while the other letters stand fully fifty feet high, one marvels at the power that enables a little over a hundred tiny bulbs to outline a letter several hundred feet in air and visible a score of miles away. The maintenance of the great array of electric signs that have sprung up all over New York within the last few years has created a new employment—that of the "sign-jack." These men, trained to climb and swing at startling elevations, man the cornices of the metropolitan skyscraper, in bad winds and bad weather, and pursue the constant work of replacing the electric bulbs that are growing dim.

To Bar Teachers from Voting Contests

Representative public opinion will be solidly behind the school board in enforcement of a new rule barring Boston public school teachers from newspaper or magazine voting contests. The frequency of such contests nowadays, and the ardor with which pupils, enthusiastic partisans of some favorite teacher, plunge into accumulation of coupons inevitably distracts attention from school work. The teacher is not doing his full duty, the pupil is not receiving the maximum benefit from instruction, and the city fails to get proper return for school money spent. For these reasons, not to mention creation of petty jealousies detrimental to discipline, it is clearly inadvisable for teachers to enter contests for prizes depending upon coupons. And reasons applying in a teacher's case will also apply with the vast majority of varied contestants in such scrambles. Private employers would be equally justified in forbidding employees to enter them. They are bound temporarily to subordinate regard for ordinary employment to gratification of personal vanity of a trivial sort, for voting contests are no longer tests of personal popularity. Rather are they tests of a candidate's ability to hustle and his willingness to buy. The only person who actually makes anything is the publisher who launches the scheme. To the general public it is worse than a bore, for no one can read his paper peaceably. Almost before it reaches his hands a hungry canvasser is at his elbow, scissors in hand, anxious to clip the coupon. Voting contests may not come under the head of laws against gambling devices, but most people would welcome a special act against them and ask no questions about constitutionality. They are a nuisance.

Municipal Ownership in Canada

Hamilton, O., has been having a bout with municipal ownership, and as a result the tax rate is now $5 on the $100. The last rate was $3.15, but a special tax for street paving, sewers and other expenses has caused the advance. The city owns the gas works, the water works and the electric light plant. The politicians in charge of the gas plant employed as many men to operate the 18 retorts in Hamilton as were employed at Cincinnati, where 500 retorts are operated, and it was estimated by those advocating a change that the gas plant was losing $65 per day for every day that it was operated. To relieve the situation the present board of public service abandoned the city plant, went to a private coke company and made a contract for gas at 35 cents per 1000 cubic feet. The coke company delivers the gas into the city's gas holder and it is then sent out through the city's pipes to consumers for 80 cents per 1000 cubic feet. The municipal ownership of the water works is said to have resulted in a typhoid epidemic. The tax valuation of the property in Hamilton for 1905 was $10,873,860, and now in order to keep the tax rate from going higher a million and a half has been added to the tax duplicate, making it $12,373,860 for 1906-7. Hamilton's experience is logical and natural.

TRADE SCHOOLS NECESSARY TO INDUSTRIAL EDUCATION.

INDUSTRIAL education is new in America and not very old in other countries. Formerly knowledge, understanding, scientific attainments and culture were all supposed to belong to the favored wealthy, those in authority, and especially to priests and rabbis. The greatest departure from this prevailing idea began about forty years ago, when technical schools were established.

Most of these schools have now become engineering colleges, and are conducted on a par with classical universities. Engineering courses require for entrance, high attainments in mathematics, science and languages. The technical schools require as much preparation for entrance as the colleges demand. The engineering courses are as long, costly and difficult as are the college courses.

The technical schools have proven a great success, and marked the greatest period of progress in all the history of education. It is said with probable truth, that there has been more industrial advancement in the past fifty years than in all the previous history of the world, and this has largely been due to higher technical education.

But technical engineering education reaches only a very few. In this respect it is the same as it was with all early classical education. The introduction of technical education is only one step in the right direction to meet the needs of all who require special training for life's work. Every advance in bringing benefits to the larger number of people has come only in response to a demand of the people. So it is now in regard to industrial education. There has arisen a requirement—a demand of the people much more emphatic, and much more far reaching than any previous interest in education. This is the demand for industrial education and training adapted to the needs of workingmen; an education just as directly and specifically suited to the work and life of the *workman* as the training of the lawyer, doctor or minister is adapted to his special life.

Both educators and manufacturers have come to see that every worker, whether in skilled or unskilled labor, needs an education—a training for his particular life—and that it will pay to give every class of laborers a training, provided it is adapted to the life that is to follow.

The present great universal movement for industrial education will not, for a long while, reach all classes of workers who need it and deserve it, but will first touch the industrial classes nearest to the engineers and scientists. So it was in the beginning: higher classical education touched only the scholarly few. Then the technical education, forty years ago, began to touch the next grade, the industrial captains and engineers. This present movement will finally spread to meet the needs of all classes, but the grade of workers who will feel it first is the *higher skilled workmen*—the machinists, pattern-makers, foundry men, etc. A dearth of this class of skilled men most vitally affects and restricts industrial development and success. Upon the skilled workmen the present special interest all over the land centers and emanates.

The demand for industrial education ought to spring from *two sources* of equal importance, viz.:

First, from the family, and, second, from the manufacturer.

As a matter of fact, however, the demand at present is mostly from the manufacturer and the state, where the interests are felt to be of

the highest commercial and industrial importance, while the subject after all is of the greatest moment to the *family*.

The boy in the family is not so much inclined to trade occupation as he was in the early history of the country. The family ideals have changed greatly, and the ambitions and inclinations of the boy have changed even more. In early times it was the desire, aim and ambition of the parents to have the boy learn a trade, but this desire has vanished. If this is not changed, we shall be obliged to take apprentices from a less promising grade of boys and from foreigners, whose natural mechanical aptness is far below that of the American boys. This is a very serious outlook for our industrial future standing, especially when we consider that the requirements for mechanical skill and efficiency are constantly advancing.

Since the demand for industrial education, skill and efficiency is so weak on the part of the family, one of the most important tasks in the popular introduction of industrial education by our new Massachusetts State Commission will be to change public opinion and reawaken new interest among young people whose lives must be devoted to mechanical work. Pride in one's personal skill and the recognition of the so-called dignity of labor is essential in a nation hoping and aiming for industrial supremacy, or even for high industrial standing.

I have mentioned the one-sided demand—the interest coming largely from the manufacturer when it ought to come from the family as well—in order to show how necessary it will be to stimulate a desire for mechanical skill as well as to provide trade schools. I have no doubt, however, that the very establishment of trade schools will to some extent awaken a desire to learn trades. At present, however, with the outlook more attractive than ever before for a mechanic's life, the scarcity of apprentices is felt increasingly on every hand. And what adds to reasonable alarm is the fact that the quality of our mechanical skill is degenerating as well as the quantity. Even brick masons at $5 per day are impossible to obtain to fully meet the demand.

Is it not surprising that a bricklayer, even when working by the hour, and not driven to do a full day's work at that, upon being required to build more excellent quality of wall, will drop his trowel and look for a job where poor work will pass? We must look to it that the old genuine pride in personal mechanical skill does not disappear among us, and the satisfaction in excellent workmanship give place to total indifference.

The increasing dearth of skilled workmen will inevitably be our limiting condition of industrial expansion, and this while rival nations like France and Germany are not likely to be handicapped in this respect. Productive industry in America is at present limited more by the failing supply of skilled labor than anything else. The demand for American products is generally beyond our factory capacity to produce. Prices and profits are based upon the merits of our goods and are satisfactory. Capital and enterprise are not lacking. Organizers, engineers, general managers, salesmen, treasurers, presidents and other officers are all at hand ready for expansion and healthy growth. There is no lack or hindrance till we come to the supply of *skilled workmen*. Here we strike the limitation of productive industry.

This dearth of skilled workmen is reported from every point in the land and from every line of industry. This scarcity of skilled labor is necessarily on the increase, because we are training fewer apprentices than the number of old workmen falling out of the ranks.

There is a question sometimes raised, viz.:

How is it, with all this so-called dearth of labor and failing skill, that we still maintain our high standard of workmanship and increase our output?

This is the answer: Our standard of excellence and exactitude is maintained at considerable effort and at great extra cost. By increasing the rigidity of inspection, by augmenting the overseeing

and watching force, by more expensive and elaborate tests and gauges, we are able to keep up our quality, but it is maintained at considerable expense as compared with a shop operated with better trained workmen. In this respect, European countries have the advantage over us, and we must expect that if our apprentice training continues inferior to other countries, our difficulty of maintaining high standards of workmanship will increase, not diminish. Already some kinds of metal work are done better in France and Germany than we do it here. This is far more the result of better training in the skilled trades than it is of any superiority of native ability or any other condition.

What kind of industrial education do we need?

And what kind can we have in Worcester?

What ought to be done about it?

What is being done?

We ought to provide means for training boys in skill and knowledge to meet the growing need, so that any boy who wishes to learn a trade can have the opportunity, and we ought to give the boy as much encouragement and an education under as favorable conditions to prepare for mechanical vocations as is given to the pupil fitting for college and aiming to become a lawyer, doctor or minister.

We want the public school teacher to fit pupils for the proposed trade schools with as much heart and effort as they now fit boys for the engineering schools.

In answer to the question, "What is being done?" it may be said that much is now being attempted in Massachusetts. As the result of Governor Douglas' effort, a commission was created of nine persons, representing the manufacturing and other interests of the State. This was known as the Commission on Industrial and Technical Education. The appointment of this commission was made over a year ago with Hon. Carroll D. Wright, president of Clark College, as chairman.

This commission was authorized to spend $15,000 in the investigation of the needs of education in the various industries of the Commonwealth. They were to investigate how far the needs are met by existing institutions, and consider what new forms of educational effort may be advisable. The report of this investigation was published last April. This report included a recommendation and a draft of a bill creating a new commission, to be called the Commission on Industrial Education, consisting of five persons to serve five years, and a paid secretary with a salary of $3500. The members of the commission receive a salary of $1200. The chairman of the commission is Prof. Paul Hanus of Harvard College. The secretary is not yet appointed.

This commission is composed of educators and other gentlemen not representative of the manufacturer, and are, therefore, unable to look at these subjects from the manufacturer's standpoint. It is, however, to be hoped that the executive secretary, when appointed, will be a man of affairs, familiar with manufacturing. The commissioners are seeking the right man, and when such a man is secured, we may expect very thorough work from this commission.

I believe that the industrial education adequate to American needs consists of two parts, viz.: *School book work* and *Shop Practice;* two parts as distinct and as real as mind and body. The first part is *Science,* which is knowledge. The second part is *Art,* which is practice.

In 1869 J. Scott Russell published a volume making a strong appeal to Englishmen for industrial education. Most of this book was devoted to the needs of such education, and a comparison of what other nations were doing in their school methods. During all these thirty-seven years since, down to the present publication of the report of the Gov. Douglas Commission, this subject has been traversed over and over precisely in the same way, placing all attention and emphasis on the *one part,* and ignoring the other part, which is most important and vital.

Since the old relation of master and apprentice ceased, there has been no

general provision made for a boy to learn the skill of a trade under favorable conditions. The instruction in the public schools has been somewhat improved and made more vocational. Schooling and special evening instruction in all branches is made available to the workingman, but these efforts are almost entirely directed towards *improved mental discipline* and the attainment of knowledge of the principles supposed to underlie the mechanical industries, *while nothing has been done to render mechanical skill more available to the boy,* or to secure mechanical skill of a higher grade, and furthermore, hardly anything has been attempted to secure the proper relation between skill and knowledge.

This one-sided effort is carried further by other means, and finally by manual training in the public schools, which is claimed to be only a new and better means of mental training.

It has never been claimed that manual training fits for mechanical industry. It is doubted by some if it even inclines boys to learn trades after leaving school, or even awakens any interest or appreciation for mechanical labor.

It was recently stated regarding the Springfield Technical High School that it was found necessary to keep the *Trade School* aspect always in the background, and always keep the cultural side to the front, in order to satisfy the classical ideals of the parents.

I was assured at the Boston Mechanics High School that in order to hold pupils at all, the cultural side rather than the commercial or trade side must be kept before them. I mention this to show that manual training in the public school is not yet largely in the direction of *industrial* education.

It is, however, still believed by some and brought out in the late report of the Governor Douglas Commission that construction and mechanical skill in the direction of productive industry may be taught in the public schools.

But so long as the use of tools and machines and the methods of construction are taught by teachers who are not productive mechanics themselves, the training can never raise the pupil above the amateur. Most of such primary methods taught to the boy must be unlearned and replaced by real methods if he ever enters the industrial life as a skilled workman. Anything like *play-work* in the place of *real work* is readily detected by the boy, always yearning for the *real* instead of the *imitation.*

Because all effort thus far has been directed to the school side, and the shop side so completely omitted during the past thirty-seven years, very little has been accomplished in real industrial education.

There was once between the district school and the country farm home a healthy relation that is needed to-day, a relation possible to realize in any city like Worcester, if work-shop training and school-book work are properly provided and co-ordinated. Almost nothing has been done, said or written to provide shop skill and experience, which certainly constitutes one-half of industrial education. Is it not astonishing that since the school-book half of industrial education is so well provided for already, and nothing at all done for the other half of industrial education—the *skill-half*—that almost the entire effort should be turned in the direction of more and better *mental training?* As if the total absence of the skill-half of the boy's education could be made good by a different mental training on "principles underlying industrial skill." This part, the shop skill, can never be supplied in the school room by the schoolmaster, but the school-book part he can supply in the public school, which is already perfectly organized, equipped and supported by willing taxation. And the schoolmaster can also do much to secure the right relations between skill and learning.

To meet all the demands for industrial education we need not duplicate or substitute the public school, but we do need to *supplement* it by trade training in shops where the highest skill and productive experience can be given to boys outside of the public school. Then, also, we must see to it that the public

schooling is as well adapted to the industrial worker as it is to the literary worker, as well adapted to the many who go to the shop as it is to the one who goes to college, and we must also see to it that the public school and the shop have to each other the right relations.

The shop training can be given to boys while they are still in the public school for one half of the time each week. When shop skill is taught in real training shops that are productive, constructive and commercial, there will be no serious break for the boy in going out of school into industrial life, and when the skill-half is taught even as well as school-book knowledge is now taught in the schools, we shall begin to supply the present demand for industrial education, and there will be no serious complaint against the public schools.

Such training shops and the public schools should stand co-ordinate, these two parts of industrial education being equal in importance; but they may be entirely independent in management. Both will co-operate to produce educated, skilled mechanics so that manhood and intelligent citizenship may not be sacrificed for the sake of the highest mechanical skill. Superior mechanical skill in the hands of a workman with considerable mental discipline is a force that can never be supplied by scientists without skill.

With a half-time school, the two parts, the school-book work and the shop practice, would go on together; neither would be dropped at an early age, and several years of the boy's life would be saved, and rendered both productive and educational. The relation of the trade training shop and the public school would be like the old relation of the farm home and the district school, part work and part study.

It has been demonstrated that boys under the best shop conditions for instruction can learn such a trade as the machinists' trade by working a part of the time and studying a part of the time during a three or four years' course, and will make a workman with superior practical skill and experience, so as to be in demand at excellent wages upon graduation, $2 or $3 per day.

I hope I have made it clear that industrial education consists of two parts, viz.: School-book Work and Shop Practice, and that these two parts are vital and equal in importance; that both parts cannot be conducted in the schoolhouse, or by school teachers. Neither is it necessary to provide trade schools where both parts are taught in one building, thus duplicating the work of the public schools; and also that training shops are necessary outside of the public schools.

M. P. Higgins.

EDUCATION CONDITIONS AND RESULTS.

THE best results in education depend upon the following conditions:

(1) No matter what our system of public education may be, old-fashioned or modern, the teacher remains as the one greatest single force in making the school and in producing good or poor results. Hence the selection of teachers becomes a matter of vital importance.

In order to secure wise and devoted teachers there must be attractions in the form of good living salaries, a certain chance of promotion for the meritorious, permanency of position for the worthy, just and fair treatment for all, and a pension at retirement. Promotion should be dependent upon length of service and efficiency in teaching and management, rather than upon academic knowledge determined by examinations. (b) In addition to the above there must be freedom in the selection of teachers under few restrictions, as in Denver. Nothing injures the service more than the "close shop" idea. Boston's old custom of selecting experienced teachers from all over New England had many advantages.

(2) The best educational results depend largely upon a wise and conservative administration of the schools, upon a school board which never forgets for a moment that the schools exist only for the good of the children, and whose foremost thought and greatest desire is to supply those children with the best of teachers and directors. It makes no difference to the members of such a school board whether the candidates for the positions are white or black, Protestant or Catholic, residents of the city or some other place, married or unmarried, women or men, old or young, the sole test is efficiency, with all that the word implies of proper education, good moral character and natural teaching and executive ability.

All this is not sufficient to obtain the best educational results. After selecting good teachers, a wise superintendent and directors, it is the duty of every school board to show confidence in their men and women, to remember that they are upon a different plane from the average day laborer, to make them feel that the school committee are not hostile critics, but friends, ready to help them at all times, to encourage them, to back them up with kind sympathy and advice, and to presume always that teacher or superintendent has a good reason for his actions, and that his word is more reliable than that of a bad child or an angry parent.

A second important duty of the school board is to select with wisdom a strong executive head as superintendent, place him on tenure of office and support him loyally. He should be as free as possible from office and clerical work, that he may labor directly with the teachers for the improvement of the schools, educationally.

Another important duty bearing upon results is the adoption by the school board of a few simple rules and regulations. The less machinery in the school system, other things being equal, the better the results. No greater blunder can possibly be made in education than to suppose that good schools can be produced by a lot of rules alone, or that it is best to try to make all our schools alike. Uniformity is the great weakness of school administration at the present day.

The fourth important duty of an ideal school board is to raise means for supporting the schools, and to see that the money is wisely and economically expended for the good of the children whose needs come before those of adults. The last annual report of the Boston school committee makes some pertinent suggestions on this point.

(3) Good results depend to some extent upon the children's being well housed, not necessarily in fireproof palaces of marble and gilt, but in rooms well ventilated, heated and lighted, with comfortable seats and the whole building planned by a school expert for the easiest and quickest handling of large masses of children. Our modern school-

houses, with all their defects, stand today as, perhaps, the best evidence of educational progress.

(4) For the best results, children must be supplied in these schools with the best text-books, supplementary reading, and every kind of map and apparatus which will save time and increase the understanding of the children. The open list of text-books, wherever tried, works well for educational results.

(5) The best educational results depend largely upon investigation and experiment. If, as some claim, the west is advancing more rapidly in education than the east, it is largely on account of this spirit of experiment. Teachers, superintendents and the school committee should work together in friendly rivalry in this line.

There is a great difference in different places as regards the amount of money set aside for public school purposes. Many of the western cities are more generous to their schools than some of the eastern cities. The people of St. Louis tax themselves twice as much per $1000 for school purposes as Boston does.

There are various ways of comparing this financial support. Compared by the lump sum, Boston with its $3,000,000 contribution stands at the head; compared by the average amount spent on each pupil Boston drops some distance behind; compared by the amount raised upon each thousand dollars of valuation, one of the fairest tests of all, Boston goes down almost to the foot of the list, being now No. 333 out of 353 towns and cities. A most disgraceful and ridiculous position.

Boston raises on each thousand dollars of valuation, according to the report of the State Board of Education, $2.54; Cambridge, $4.11; Gloucester, $4.35; Springfield, $4.59; Lowell, $4.80; Fitchburg, $4.95; Melrose, $5.17; Somerville, $5.35; Chelsea, $5.64; Malden, $5.88; St. Louis, Mo., $6. Malden raised 2⅓ times as much according to her valuation as Boston; Chelsea 2¼ as much, and the other cities average about twice as much. Boston spends for supplies $1.65 per pupil; New York, $2.20. Is it any wonder that our children are poorly supplied with educational necessities, and that the teachers are obliged to lend, without interest, a part of their hard-earned wages to the school board?

(6) There has been lately a feeling among many teachers that "methods" have been overworked and that one method is as good as another if the teacher is efficient. These statements are far from the truth. Some methods require half the time to reach given results that other methods do; some methods require the children to do the work, in other methods the teacher does most of the work and the poor children become little pitchers; in one method the children are crammed, in another they are developed; one method makes the children love the study, another method leads to a strong dislike for the subject. Hence, the best results can only be obtained by the use of the best methods, and teachers, principals and superintendents should search for these methods as for fine gold.

(7) To have good schools and to obtain worthy educational results, it is necessary to have means for carrying them on. Good schools, like all other excellent things, cost money.

The public is generally willing to furnish this money if it understands the urgent need and believes that the money is wisely expended; for the American people are proud of their public school system.

(8) The last point for consideration is this: Educational results depend upon the kind of discipline in the schools. This principle is not fully recognized except by the teachers themselves. There is a general idea that some kind of discipline is a very good thing in school, but that it makes little difference in the long run whether it is strict or slack, whether children obey promptly or when they get ready, whether the teacher rules the children or gets along with them. Such believers think that the less discipline the better, because to them discipline has to do only with order, and not at all with lessons. How few people realize that the smallest amount of disorder is a barrier to thinking and learning.

Good discipline can be defined as maintaining sufficient order, quietness and regularity to enable children to do their best work and obtain satisfactory results. How to maintain such discipline is the question of questions in education. There are divergent ideas upon this subject.

One theory strongly advocated by many persons outside of the schoolroom, including a number of superintendents and a few principals, is simply to make the schoolroom a happy place by means of love and kindness, of sweet and attractive ways such as are employed by a teacher who possesses an angelic personality, and who never uses forcible language or the rod, but rules by love alone. Discipline, then, we are told, will take care of itself, and the children will work and behave and the results will be all that could be desired.

Angelic teachers dealing with angelic children would, without doubt, produce most wonderful results; but such combinations are somewhat rare in this wicked and prosaic world. A large majority of children are fairly well controlled by the moral suasion and personality method, especially in schools having the best grade of children, but how about educational results even in such schools? If the children do not work and get their lessons, the method is a flat failure.

This "happy home" method has been tried in a number of places and the results are manifest. Let us visit these schools and see them.

We find in one place sunny rooms, sweet, lovable teachers, who never speak a cross word or use any form of force, having before them a set of bright-looking, well-dressed drones, the laziest children that it has ever been my misfortune to see. For twenty minutes I once stood in one of the best of the rooms, in one of the best of the schools, presided over by a charming teacher, and only five children out of forty-five had respect enough for themselves, for me or their teacher, or energy enough to take the slightest part of interest in the recitation. Other teachers have had similar experiences. Parents living in the place have complained bitterly of the lazy habits their children were contracting, and the little they were learning in a year.

Can you call such a school a model school? What does it lack?

In a large city are two schools. The first one is composed of poor children, many of them from neglected homes, but the teachers believe in making the children work. In the second school, composed of the best class of children, coming from good homes, the teachers do not believe in driving children or forcing them to get their lessons, or love the chance of promotion. When teachers from the first school visit the second school they report that the well-dressed children with all their home training and comforts are a year behind their own ragged youngsters in education. Theoretically, they should be a year ahead, which means that they are two years behind where they ought to be.

Is the second school a profitable public school if it requires two years to do one year's work?

In another school, composed of the very best children, where force in the shape of corporal punishment is rarely if ever used and where there is a fine corps of teachers, who have tried to run the school on this loving, sweet, personal method, the results, intellectually, are so poor, the children are so impudent, careless, lazy and wilful that some judges pronounce the school one of the poorest in the neighborhood, and the teachers in the school are, themselves, discouraged and disgusted with their work, and find their only consolation in indifference. Here we see the effect of the gentle, homelike discipline under the best possible circumstances.

Are the educational results satisfactory?

These three illustrations selected from hundreds of others go a great way to prove that in order to obtain worthy results the discipline must rest upon something besides the personality of the teacher, and the entertainment and happiness of the children. What other element is needed?

Visit a schoolroom, of which there are

more than 1000 to-day in this city, where all this kindness and personality are supplemented with a little force, only occasionally shown, but known to be there, a power sufficient to keep all, including the worst, under control, and where a little wholesome fear is felt by the children, and what do you see? All of the children, instead of one-tenth of them, busy as bees at their daily toil, children and teacher working together and happy in their tasks, each respecting and loving the other; the children learning habits of industry and obedience, which will be of incalculable value to them in after life. What a different atmosphere in this room from that of the rooms previously described.

Is it not a healthy one? And is not such a school a profitable school?

All masters agree that children must be controlled; we differ, however, in reference to the means and the extent. Of course, the more children are controlled at home the easier they are to control in school, and the better they work. When the number of uncontrolled children at home who are driven into the schools by the compulsory law reaches over 10 per cent. in any room of fifty, and over 25 per cent. in a school, then the problem of controlling and that of results assume a very different aspect. The difference is well illustrated by the difference between controlling well-trained Shetland ponies and wild horses.

To use severe measures when and where they are not needed is as foolish as not to use them when they alone will accomplish the desired results. What doctor uses the knife when a little medicine only is needed? What patient refuses the use of the knife when that is the only remedy?

Who can tell which is the better method of discipline in a given case if not the wise teacher constantly dealing with the persons to be controlled? It is very rare to find a teacher who does not try moral suasion and kindness over and over again before resorting to harsher measures.

In the minds of theorists and some kind-hearted people who do not teach school, and who know practically as much about training children as teachers know about training horses or the banking business, and who have no conception of the rough children driven into certain Boston schools by the vigorous enforcement of the compulsory law, corporal punishment is a relic of barbarism, a disgrace to the twentieth century, and Solomon an old fool. The teacher's rattan is cruel; the surgeon's knife is beneficent.

No one dislikes the application of the rod more than those who most firmly believe in its efficacy; and only the great love of the teacher and the strong hope of saving the boy, ever lead to its use.

Can anything take its place?

For forty years I have been searching for an effective substitute for the rod at home and in the school, something which will apply in all difficult cases, and which will be equally decisive and economical of time for the child, the teacher, and the other forty-nine children.

Suspension has been proposed, but this is just what the bad boy enjoys—a few days out of school away from the restraint and hateful lessons.

The New York "transfer and expulsion" system is a very easy method for the teachers to apply and quite effective, when the compulsory law is not very rigorously enforced, but it lands many boys on the street and later in prison.

"Disciplinary rooms," employed for years in Providence and Newark, have some advantages, because the boys and their parents consider it a disgrace to be sent there, and their use certainly would lessen the number of punishments, but this method is only a substitute for making every room disciplinary and every teacher respected by both good and bad children.

Greatly reducing the number of children to a teacher is one of the best substitutes and means of reducing the necessity for corporal punishment, but this method increases the cost of education.

Recently there has been revived an old kindergarten method of having the

child re-do the naughty act until he is sick and ashamed of it. It is claimed that a great school can be governed by this "re-gum-chewing process." To show its limitations let me apply it to some practical cases which have recently occurred.

A boy lately went home and deliberately lied to his mother about his teacher. Ask him to stay after school and lie about his teacher until he gets tired of it. Suppose the boy refuses to lie under the new conditions, then what can be done?

A short time ago a boy stole some money out of his teacher's desk. Have him stay after school and practice stealing.

A few days ago John enticed two other boys to play truancy with him. Ask John and his friends to play truancy until they are sick of it.

Last winter a boy on his way home from school threw a hard snowball and severely injured a girl's eye. Have this boy and some girls go down into the yard after school and let him snowball the girls until he becomes ashamed.

Two boys get into a quarrel and a fight on the way home from school. Take them into the basement and make them fight before the principal, who, of course, would act as referee.

Once in a long time a boy writes a filthy note to a girl; have him stay after school and practice writing such notes.

A few years ago a boy pointed a loaded revolver toward his teacher in school time. On this kindergarten method I should have taken a few teachers into the basement after school and had the boy practice pointing his loaded revolver at them until he became sick of the play.

Do not infer that all these boys received corporal punishment for these offences. They were settled in a variety of common sense ways.

Is not this re-doing method a very weak substitute, undignified and unworthy of the proper relation between the teacher and the pupil, and one which generally punishes the teacher more than the pupil? And the pupil knows it.

My object thus far has been to show how closely good discipline is connected with good educational results, and the difficulties surrounding the attempts to procure a worthy substitute. Let us seek, in closing, one other proof. We advocated experiments to test educational methods. Let us try the plan in reference to corporal punishment. Abolish it and see what will happen. This experiment has often been tried by individual teachers, by principals, by districts and by cities. Several years ago, while teaching in a school composed of good material, I tried the experiment for three years. One or more of the following five changes took place sooner or later:

(1) Just as soon as the children understood that no one had any power to make them behave they stopped their efforts. The educational work of the school became decidedly less. Children do not like to work any more than adults unless they are driven to it. I do not undervalue the worth of the power to arouse interest, and it is very easy to do that in certain directions. Neither do teachers often punish severely for laziness, but the knowledge that a teacher has the power to punish creates a good working and moral tone in most schools and helps to form habits of industry. I have observed over and over again that good disciplinarians had good per cents. in arithmetic and spelling and all the harder studies; while poor disciplinarians had always much poorer results in these studies, and the difference in drawing and manual training between these classes of teachers was much less.

(2) Most of the children next became careless and indifferent in reference to their behavior; soon a few grew bolder and became impudent and wilful, and stopped work altogether. The balance of the class suffered and lost the help of the teacher on account of the naughty ones.

(3) The time necessarily given by teacher and principal to the bad ones and in settling cases oftentimes was so great as to be a serious matter. In some

schools a large part of the principal's time is thus employed.

(4) The teacher found it necessary to work to entertain the children more than formerly. Busy work, music, drawing and story telling received more time than they should.

(5) After a while talking, coaxing, persuading, use of will power and all that goes under the head of personality, failed to influence all the children, and so matters reached a position where substitutes for the rod were eagerly sought.

Some of the substitutes to which fine, able teachers are driven are the following, which have been used over and over again in public and private schools: The principal requires the parent to come to school and administer the punishment in his presence. Does that increase the respect of the child for his teacher? In other schools parents are asked to punish their children at home; but parents rarely administer the punishment as justly, wisely and safely as the teacher.

Teachers who are prevented from using the rod are always driven to a free use of sarcasm, ridicule, nagging or foolish flattery, placing the child in the fool's seat or the naughty child's corner. When these devices have little or no effect upon the worst children in the class, the teacher must resort, in order to retain his position, to inflicting pain in some other than the regulation way, as pinching ears or nose, slapping the face, making the child sit or stand in uncomfortable positions, throwing him down, kicking or choking him. If something of this kind be not done the teacher loses the respect of these children and is in danger of being considered inefficient by those in authority.

Are not most of these practices worse than all the possible evils attending the use of the rod? Wisdom requires the master to select the remedy which has least disadvantages. The claims of the successful and advantageous abolishment of the rod where the compulsory attendance is enforced do not generally come from the teachers in the hard schools. The teachers in Chicago, New York, Brooklyn and Cambridge tell a very different story.

The modern sentiment which allows children to do as they please, never compelling them to do the unpleasant or disagreeable, founded upon a mistaken affection on the part of parents and teachers, has ruined and is ruining thousands of boys and girls. At the same time, it must be acknowledged that severity alone is not likely to save boys or girls. It must be combined with other healthy influences.

Our educational results should be proportionate to the money, energy and devotion given to the schools. Wherever the system is weak let us do our best to strengthen it. Where mistakes have been made let them be quickly remedied. Let us not be altogether cast down by apparent failures or too much elated by high per cents. and apparent good results, but by devoted efforts, a grand union of teachers and officers, committees and parents, work for the future good of the children, which means a good future for the city and the State.

CHARLES F. KING.

BUSINESS SUGGESTIONS FOR MERCHANTS.

THE annual meeting of Worcester Merchants' Association in October brought out some valuable business suggestions from President W. W. Johnson, Mr. Irving Swan Brown, and Mr. James E. Patten, active and successful business men.

In his report Mr. Johnson said: It would seem as though an association whose objects are as broad and comprehensive as this of ours, ought to have the hearty co-operation and assistance of every reputable merchant of our good city. Let me tell you just what this Association was organized for, and the objects it has in view. The object of this Association shall be for the purpose of fostering trade and commerce, to protect it from unjust or unlawful exactions, to reform abuses in trade, and to form a more enlarged and friendly intercourse among merchants.

Now to this end we have several committees—a Grievance Committee, an Advertising Committee, a Conference Committee, a Legislative Committee, and a Membership Committee, also a Committee on Entertainments and Excursions. Let me outline what is expected of them.

First, the Committee on Advertising.—It shall be the duty of this committee to investigate special advertising schemes submitted to the members of the Association; to investigate the qualities and rates of the various advertising publications in use by the members of the Association; to devise and put into operation special means of advertising for particular occasions. I desire to call your attention to a report of the Advertising Committee, unanimously adopted by this Association two years ago, giving a list of the mediums which we believe are good.

The Committee on Advertising, after two meetings and careful consideration of the proper methods or mediums that we believe legitimate and proper to be used in advertising our business without oppression to the merchant and with justice to the public, recommend to the President, Directors and Members of the Merchants' Association the following publications as the only ones we should consider as beneficial to ourselves as a body, viz.: Street car service, street billboards, city or county, daily or weekly newspapers; magazines, church or society papers that are issued as often as ten months in the year; theatre programmes, or any other entertainment notices that are printed as frequently as nine months in twelve.

On the matter of donations for the matter of advertising our business by personal calls made continually for societies, fairs, tournaments, regattas, etc., we stand as a man for their discontinuation, making this single exception: In case of destitution, for humanity's or charity's sake, if any merchant desires to relieve distress for worthy objects, the matter is left to his own individual judgment and discretion, this being a subject with which we, as a committee, think we have no right to meddle.

As to the purchase of tickets for entertainments, balls, fairs, lectures, etc., we believe this matter of too small importance to be agitated by us, but should be left to the merchant's personal feelings, he to do as he thinks best in the matter.

We are well aware this radical drawing the line on many publications that have only one or more issues will not please the projectors or parties most interested, yet we feel that it is only just that these methods that benefit only those that present them should be passed.

The merchants have remained loyal to the advertising agreement and as members of this Association are still morally bound by this action to continue loyal.

In the matter of advertising Worcester, the Association has issued 100,000 four-page, two-color circulars, containing many important facts about the city. This circular was prepared by the Secretary, under the direction of the Advertising Committee, and has been used in the schools as an educational factor, and has been spread broadcast over the country.

Committee on Grievances.—It shall be the duty of this committee to make a careful examination of all reports submitted to it by any member of the Association; of abuses in trade, misconduct, of malfeasance to employees, of all contests and controversies between competitors, of all illegitimate and unbusiness-like competition, and all other evils and grievances suffered and endured by members of the Association; to devise ways and means for the correction of all these evils, abuses and grievances, and to report their recommendation to the Board of Directors for action. The old trading stamp evil that we waged war against revived again early this year and the Association took the matter up with enthusiasm, presenting an agreement to the merchants for their signature, which read as follows:

"We, the undersigned, believing that the use of trading stamps is a form of competition that adds expense and cost to the consumer as well as to the merchant, and that it is a method of conducting trade that is against the public welfare, do hereby agree *not* to use trading stamps of any kind or in any form in connection with business.

Worcester, Mass., March 1, 1906."

To this agreement, signed by 500 merchants, with one or two exceptions, the merchants have remained loyal and true and, according to the statement of the trading stamp people themselves, have killed the evil as dead as Julius Cæsar.

Committee on Legislation.—It shall be the duty of this committee to make a thorough and complete investigation of all laws and ordinances governing the merchants belonging to this Association; to propose to the Board of Directors such additional laws and ordinances as are required for the better protection of the members of the Association, and to secure the proper enforcement of the laws and ordinances against all those schemes which from time to time interfere with and molest the legitimate business of the city. The Association cooperated with the Board of Trade in assisting in the passing of a bill by the Legislature, limiting assignment of wages to two years, instead of indefinitely, as heretofore.

Committee on Entertainments and Excursions.—It shall be the duty of this committee to induce railroad companies to run excursions into the city; to use the reduced rates already established by the railroad companies for conventions, and the like, in such way as will best serve the business interests of the members of the Association, and to run excursions on its own account and for the Association upon such plans as will bring into the city the largest number of people from the territory tributary to Worcester.

The speakers were Mr. Irving Swan Brown, formerly of the Boston Store, and Mr. James E. Patten, formerly manager of the Protective Union Grocery Company. The former gave several experiences he has had in the management of a large department store, and Mr. Patten spoke on "The Relationship of Employer and Employee," from which the following paragraphs are taken:

A clerk who is continually shirking and doing just as little as he possibly could, is an absolute detriment in all lines of business. While it is true there are some employers who are harsh and unjust, in the majority of instances when clerks find fault with their employers, if the matter was honestly and fairly investigated, it would be found the clerks were largely responsible for the treatment accorded them.

Many young men who think their efforts are not fully appreciated and cannot understand why they do not advance more rapidly, cannot seem to understand their habits had anything to do with their not being pushed forward by their employers. Young men who are dissolute and negligent cannot expect to succeed in business to-day.

The speaker said he firmly believed in the old adage, "All work and no play makes Jack a dull boy," but at the same time he realized all play and no work was detrimental both to the clerk and his employer.

While there are a few employers who are aptly termed slave drivers, still 98

per cent. of the concerns who employ men and women in Worcester to-day have the welfare of their employees at heart and are anxious to do everything possible to assist them.

The employee who is watchful of his employer's interest all the time is steadily gaining ground in the mercantile tug-of-war, and will eventually forge to the front, for he cannot be kept down.

In these days of rush and hustle for the almighty dollar there must be routine to follow and it behooves every man or woman to do his part and do it as quickly and thoroughly as possible.

No two men can look through the same eyes or have the same natural tendencies toward business. If all had the same ideas, the stores and shops would be like a row of tenement houses, all alike.

The proprietor lays down his plans and rules and his employees must grasp them and carry them out or the store is not a success.

Cheerfulness plays an important part in a work-a-day life and the cheerful and happy-faced fellow is a winner every time. They should endeavor to learn the names of their customers. They should recall their personal peculiarities. If they meet a person whose name they cannot recall, they should not address him as though they were conferring a favor on him.

When you have waited on a customer don't say "Is that all?" but rather "Is there anything else?"

Any salesman who will sell to each customer 10 per cent. more than the customer originally intended to order, will make himself of inestimable benefit to his employer.

Never accept tips from customers, and don't discuss politics or religion with them, for you never can tell on whose toes you may tread.

The satisfied employee is one of your most valuable assets. What better feeling can you have than to know when you are called away for an hour or a day, your employees are in their places and working just as hard and faithfully as though you were there?

Pay your boys more than living wages and watch the result. A better plan still is to make them co-partners in your business, and make them share the profit or loss on the work they perform.

When new goods come into your store, explain to your employees the points you desire them to bring out in displaying them.

Don't discuss your competitors before your employees or customers. If you follow this habit, your employees will take it up and they will soon be unconsciously advertising your competitors without intending to.

Watch your competitors closely to be sure they do not surpass you in business enterprise. If one of them has a good plan for selling goods, try and devise a better one for your own use. If your competitor is a failure, pass no unnecessary comments on him, but let his failure be a lesson to you in avoiding the mistakes which he has made.

Help your employees learn the detail of your establishment—and to watch the numerous little lax ends, for it is the numerous small items which, added together, make the great mass of losses in the business world.

Don't nag at your employees. If they will not do what you want them to, discharge them, but don't whine at them or be peevish. I believe in reading the riot act to the boys occasionally, for it wakes them up, but continual fault-finding only engenders dissatisfaction.

Don't be sour and glum when trade is dull. Your employees feel as badly about it as you do. A cheery good morning is a mighty good thing to start the day with, and you will feel better for the effort. A contented employee is a valuable asset.

Set your employees on the right road in the beginning. See that they have proper instructions in your methods. Show you appreciate good work in the boys. A pat on the back or a word of commendation lets them know you see what they are doing and appreciate it. Let the boys off occasionally when work is slack. They will appreciate it. You will lose nothing by doing so, for when they are at work they will be more anxious to serve your interests.

THE WORCESTER MAGAZINE

Vol. IX. DECEMBER--1906 No. 12.

Magazine and Municipal Comment.

Hon. Charles Grenfill Washburn.

Is Organized Wealth a Menace to Republican Institutions?

Conduct of a Successful Machine Shop.

DEVOTED TO

Good Citizenship and Municipal Development

PUBLISHED MONTHLY BY THE BOARD OF TRADE

WORCESTER, MASSACHUSETTS,

U. S. A.

$1.00 A YEAR. 10 CENTS A COPY

CENTRAL SUPPLY CO.

Steam and Gas Supplies

Wholesale and Retail

Wrought Steel
Cast Iron
and Brass

PIPE

All Weights
and Sizes
1-8 to 24 in.

Automatic Sprinklers

Brass *and* Iron Fittings

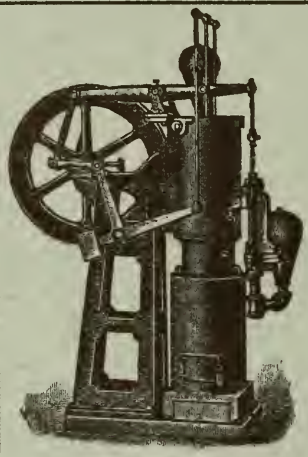
Tanks

Inspirators

Injectors

Traps

Hand *and* Power Pumps



Ericsson Hot Air Engines

Oil Filters

Wind Engines

Brass *and* Iron Valves

Towers

Pipe Tools

Railing Fittings

Pipe Covering

Hose, Etc.

The Leading Makes of

Steam and Hot Water Heaters

Radiators of all kinds and sizes

Send us your address and receive estimate (free) from responsible fitter for heating your home, store or factory.

Pipe cut to snetch. Complete Steam, Automatic Sprinkler and Heating Outfits. Pumps and Pumping Appliances of every description.

35 and 37 Waldo Street

WORCESTER, MASSACHUSETTS

CONGRESSMAN-ELECT CHARLES G. WASHBURN.

The Worcester Magazine.

VOL. IX. DECEMBER, 1906. NO. 12.

This magazine is published by the Worcester Board of Trade. Its reading pages are devoted solely to municipal development, good citizenship and the business welfare of Worcester. Space in these pages is not for sale.

MAGAZINE AND MUNICIPAL COMMENT.

Interesting Paper by John R. Back

Mr. John R. Back, superintendent of the F. E. Reed Co., manufacturers of lathes in Worcester, and one of the most important lathe manufacturers in the world, recently gave a talk before the Worcester Metal Trades Association on "The Conduct of a Successful Machine Shop." The announcement that Mr. Back made this talk carries with it the knowledge that it was an interesting as well as practical discussion of an important subject. Mr. Back has been more than forty years in a machine shop, and there is no more practical machinist anywhere than he. He has grown up in the business, and has seen the development of the lathe for the past quarter century, and has also had excellent opportunity to watch the evolution of the labor problem. He has seen the machine shop methods from the time every kind of a machine was made under one roof until to-day, when the greatest machine concerns in the world confine their energy and capital to the building of two, three or four specialties. He quotes, to illustrate his statement, the great Brown & Sharpe Manufacturing Company of Providence, that employs 4000 skilled mechanics and concentrates nearly all its efforts to the building of four lines only—the grinding machine, the gear cutting machine, the automatic screw machine, and the milling machine. Coming to our own city the Woodward & Powell Planer Company makes planers exclusively, Prentice Brothers Company confines its energy exclusively to drills and lathes, and F. E. Reed Company is exclusively a lathe manufacturing concern. So much interest has been manifested in this paper of Mr. Back's that the Magazine is glad to reproduce it, particularly as it is to be given during the winter before other metal trades associations.

Odd Fellows Have a New Temple

One of the newest additions to the city's architecture is Odd Fellows' Hall on Main Street, between Chandler and Wellington, which was dedicated in November. It was the occasion of a great gathering of members of the fraternity throughout the State, and the exercises of dedication were preceded by a parade of the Worcester lodges of the order, together with branches of the uniform rank from various sections of the State. The new temple of Odd Fellowship is an attractive building, but the principal feature is that it is the club home for one of the most fraternal

orders in the world. Worcester has upward of 4000 Odd Fellows, and it is proper that they should have a general place of meeting to exchange fraternal greetings, to map out work of charity, which is one of the strong pillars of their belief, one of the cardinal teachings of the order.

For a Permanent Exhibition

A committee from the Worcester County Mechanics Association is considering the establishment and maintenance of a permanent exposition of the products of Worcester manufactories. This committee is comprised of Mr. John R. Back, Mr. John A. Sherman, Mr. Charles E. Burbank and Mr. M. D. Gilman, and they are to investigate the proposition and report to the Association. There is no question that this is the most feasible plan that can be worked out. There should be such an exhibition, it should be permanent, and the Board of Trade and Mechanics Association should have an equal interest in such a project.

The idea prevails among Worcester manufacturers that the establishment in the Mechanics Building of an exhibit of Worcester manufactures would be of good advantage to apprentices in the various trades, affording, as it would, opportunities for them to study the exhibits in detail and thereby abtain a more comprehensive knowledge of the scope of that particular trade at which he works.

The Worcester branch of the National Metal Trades Association is also interested in the matter, and the idea of affording apprentices a more thorough training was one of the principal points brought out in a paper written by Mr. John R. Back, of F. E. Reed Co., and read at the second smoketalk given by the Worcester Metal Trades Association two weeks ago. This idea was first advocated, although on a much larger scale, by the secretary of the Worcester Board of Trade in April, 1905, in his annual report. The following is taken from that report relative to this subject:

"Another most important subject which might very properly occupy the attention of the Board of Trade is the feasibility of a Worcester industrial exhibition. It can truthfully be said that within the bounds of Worcester lies a wealth of mechanical genius and an endowment of mechanical ancestry of which our city might well be proud. Some of the greatest industries of the world had their birth in this locality. Whitney's cotton gin, Howe's sewing machines, Wheelock's engine, Blanchard's irregular form lathe, Bigelow's spread and carpet loom, Whittemore's card clothing machinery, the power looms of Crompton & Knowles, Washburn's wire-drawing machinery, which has been so magnificently developed by successive generations of Worcester mechanics; Hawes' envelope machine, and many others of world-wide fame all form a nucleus about which might be crystallized a great practical scheme for an industrial exhibition which would work wonders as a world-advertisement for this city.

"Think of her 1100 distinct manufacturing plants, turning out almost every conceivable form of machine appliances. Think of her 25,000 mechanics, earning more than $13,000,000 every year. Think of her savings in local banks, equal to $375 for every man, woman and child in the city.

"This scheme of a Worcester industrial exposition, if begun now and taken hold of enthusiastically by the members of the Board of Trade, might easily become an accomplished fact within five years. All the magnificent supremacy Worcester has attained has been won, despite the most discouraging conditions of geographical location. If, at first blush, the spectacle of a city of 135,000 people planning an industrial exhibition should seem presumptuous, we can answer the doubters with some strong statistics. The idea is a big one. It is big also with magnificent promise of possibilities for the city. It would not be easy for any man to forecast the amount of permanent business increase which such an exhibition would bring to Worcester. It would be the greatest advertising project the city could ever engage in. To use the phrase of the street, 'Worcester

has the goods,' and needs not be ashamed of her display. Here is an undertaking well worthy the best thought and honest energy of Worcester's men of progress and enterprise. All that is needed is a leader.''

The proposition now before the Board of Trade direction relative to a new Board of Trade Building would furnish opportunity for a developed plan identical with that advanced by the Worcester County Mechanics Association, for which this committee is appointed.

Congressman Rockwood Hoar

Within the month has occurred the death of Congressman Rockwood Hoar. He was the last of the men of his generation of the name, and by his death an honored name, well worn, disappears. Massachusetts loses a man of good parts, and the representative of a family of much distinction. Both his father and his father's brother were men of large ability and served the State in national life with great credit. Rockwood Hoar made a place for himself in Congress even in the short time he was there as the Representative of the Third Congressional District, and it was in keeping with the efforts of the man. His ambition was always to progress, and to make sure that the progress was along the lines of intelligence and justice.

Rockwood Hoar was born in Worcester April 24, 1855, son of Senator George Frisbie and Mary Louise (Spurr) Hoar. He was a pupil in the Worcester public schools and was graduated from Harvard College in 1876, and received his degree of A. B. in 1879. His classmates in college included Attorney-general William H. Moody, now of the United States Supreme Court; Justice Francis Cabot Lowell; Eugene Wambough of Iowa, George Miller Cumming of New York, both professors in law universities; Dr. Daniel Webster Abercrombie, principal of Worcester Academy; Percival Lowell, honored by philosophical and astronomical societies; Phillipe Belknap Marcou, famed in connection with romance languages; Benjamin Osgood Pierce, mathematician, and Charles Franklin Thwing, president of Adelbert College. He was graduated from Harvard Law School in 1878, and was admitted to the Worcester County bar in 1879. He began the practice of law in his father's office, there being there at the time Col. A. George Bullock and Judge Thomas L. Nelson. He served as assistant district attorney under Col. W. S. B. Hopkins, and was elected to the office upon the retirement of Mr. Herbert Parker in 1899, and served in that office until 1905, when he was elected Representative in Congress. He married Miss Christine Rice, daughter of Mr. William E. Rice, president of the Washburn & Moen Manufacturing Company at the time it was taken over by the American Steel & Wire Company. Besides his wife he leaves two daughters, Frances Helen Hoar and Louise Ruth Hoar. He entertained President Theodore Roosevelt at the time of his visit to Worcester to attend the commencements of Clark College and Holy Cross College. His funeral took place from the Church of the Unity, at which Rev. Dr. Edward Everett Hale, chaplain of the United States Senate and first pastor of the church, took part, and there was present a delegation from the national House of Representatives, and also from the Massachusetts State government.

Another Rush for City Offices

Worcester is just on the eve of another municipal election. The smoke and red fire of the last city election have hardly cleared away, and the people are called out to go through another campaign. The candidates are identical, Dr. Melvin G. Overlock again leading the Republicans, and Dr. John T. Duggan is at the head of the Democratic forces. For a few weeks City Hall affairs will be stirred up, measures of any importance will be headed and dragged along, and nothing of consequence will be accomplished until after the votes are counted and a winner is decided. This is all wrong in the minds of many of the voters. The agitation throughout the State for biennial elections for State officers applies with equal force on

municipal elections. There is a question capable of argument for and against on the question of biennial elections, but it does seem that a public official should have opportunity to lay out and give a practical trial a definite policy without being interrupted in the middle of it, and the question of his completing that policy, which, under ordinary conditions, cannot be completed in a single year, in doubt. The candidate must be upheld or condemned on the whim of the voter.

Growth of Socialism

Mr. George Willis Cooke recently gave a talk before the Twentieth Century Club on "The Underlying Principles of Socialism." He admitted at the outset that socialism is attracting wide attention. The daily papers and the politicians are treating the question with almost no knowledge of it, and can put it down that what you see about socialism in the daily papers, or hear of it from the politician, is not true unless you have positive knowledge they stated the truth in the premises.

"People are reaching out, especially among the middle classes, for a reinterpretation of society. This condition has caused a rapid growth of socialistic doctrines, and now there are estimated to be more than seven millions of socialists in the world. In the United States the growth has been remarkably rapid, and where a few years ago the voting strength was only nominal, being approximately 2000, the voting strength of the socialists in the campaign of 1904 was approximately 600,000. It looks like the vote this year will be much greater and at the next national election it will pass the million mark."

The speaker said it is commonly said that the growth of socialism is due to the unrest and dissatisfaction of the working class with present conditions, and is their protest against established condition. "I want to say," said he, "it grows out of the fact that evolution stands for the idea. Man grew out of animal life not because he was bloodthirsty, but because the animals flocked together for mutual protection. Man has always been a social being."

He said: "The socialists do not propose to divide property. Neither do they propose to destroy individuality. Rather, they oppose the division of property and the aim is to so organize society as to more fully develop individuality.

"Socialists do not believe in the confiscation of property and wealth, neither would they do away with private property. Socialism favors combination of the sources of production and the division of the product. Socialism wants the family to hold the place in society it ought to hold, and it wants the members of the family to enjoy every right they are entitled to enjoy."

The speaker paid a tribute to the book recently issued by Prof. Sidney A. Reeves of Worcester on "The Cost of Production."

Instruction in City Government

School Superintendent Elson of Cleveland, O., has introduced into the elementary schools teaching relating to the duties of city officers, the Mayor, City Council, Police, Board of Health, etc. At which grade this instruction begins does not appear, but there are several grades below the high school where it may be made useful to pupils who end their school course early. The superintendent says that such instruction is "particularly valuable in cities like Cleveland, where there is a large foreign element." In cities where the native element largely predominates there is abundant lack of definite knowledge of such things among school children.

HON. CHARLES GRENFILL WASHBURN.

[Charles Grenfill Washburn, manufacturer and lawyer; born in Worcester, January 28, 1857; son of Charles F. and Mary E. (Whiton) Washburn; educated in the public schools of Worcester; graduated at Worcester Polytechnic Institute in 1875 and at Harvard University in 1880; established the business of the Wire Goods Company in 1880; in 1882 was treasurer and manager of the Worcester Barb Fence Company; from 1884 to 1891 was connected with the Washburn & Moen Manufacturing Company, now a part of the American Steel & Wire Company, and during the latter part of this period was a director and executive officer; admitted to the Suffolk bar in 1886, and has been a practicing lawyer in Worcester since 1891; is trustee and president of the Worcester Polytechnic Institute Corporation; was a member of the Massachusetts House of Representatives in 1897 and 1898, serving one year on the Committee on Mercantile Affairs, and the following chairman of the Committee on Taxation; elected to Massachusetts Senate in 1899 and 1900, and was member of Special Committee in 1902 to revise the corporation laws; delegate to National Convention in 1904, and a member of the Massachusetts committee to notify President Theodore Roosevelt of his nomination; classmate in Harvard College of President Roosevelt; nominated Republican candidate for Congress from Third Massachusetts District, to succeed Hon. Rockwood Hoar, deceased, November 1, 1906; nominated Republican candidate for Congress from Third Massachusetts District to fill unexpired term caused by the death of Congressman Hoar, November 27, 1906; is trustee of the Slater estate; married April 25, 1889, Caroline Vinton Slater, daughter of H. N. Slater of Webster; has two sons, Slater and Charles Francis.]

THAT the people of the Third Congressional District, of which the city of Worcester is the important centre, will have their interests faithfully and ably represented at Washington by Congressman-elect Charles G. Washburn, is an accepted fact in the minds of all. The Congressional Committee chose wisely when they invited Mr. Washburn to permit the use of his name for the vacancy created by the lamented death of Congressman Rockwood Hoar. This district for a long series of years has been represented at Washington by one of intellect and of commanding character and ability. It is a source of gratification to all our citizens that the high standard of representation maintained so long is not only to be sustained, but is certain to be enhanced in an eminent degree.

Mr. Washburn will bring to the performance of his new duties an unusual equipment. His record of service in the Massachusetts Legislature, both as Representative and Senator, is filled with proofs of conspicuous contributions to the progressive legislation of the State. His attendance at sessions was regular, his share in debate always heard with respect and manifest impression, while the value of his active work in the important committees to which he was assigned is cordially acknowledged by all who served with him.

Before he went to the Legislature, and for years prior to his advent in the arena of party politics, Mr. Washburn's time was closely occupied with the duties of an important position in the management of the leading industry of Worcester, the founder of which had made the name of Washburn the most important perhaps in the whole history of this city. It would not be easy to imagine the Worcester of to-day if there had been no Ichabod Washburn genius eighty years ago to found Worcester's greatest enterprise. Brought into close business relation with such industrial leaders as the elder Moen, Charles H. Morgan, his father, the late Charles F. Washburn, and the other leaders of the great wire industry, our Congressman-elect had singular opportunity of mastering at first hand in the most practical way the important principles and methods of conducting business on an extensive scale. His standing as a special student of economics will enable him to speedily forge his way to the front

rank of Congress as he grows accustomed to the atmosphere of affairs in the national assembly.

As a citizen of Worcester Charles Grenfill Washburn has, from his earliest years, borne himself under all conditions in a manner to win and retain the respect of his fellow citizens, regardless of party lines. Democrats as well as Republicans see in him a man whose conception of public service springs from the same ideals as dominate the character of his illustrious classmate at Harvard, Theodore Roosevelt.

As a member of the Worcester Board of Trade Mr. Washburn has ever given unselfishly of his time and energy whenever it was possible for him to take part in its deliberations and activities. He has presided as toastmaster at the annual banquet, when his apt and witty speeches of introduction of the different speakers were among the chief sources of enjoyment of the evening's exercises.

The men are few in the United States to-day who are better qualified for public life than Mr. Washburn. The nation needs such men as he in her higher councils of State. Now that he has entered the wide field of national affairs, Worcester may confidently rely upon receiving at his hands a devoted representation worthy of his own ideals, a fit successor of the able men who in the past have stood in the place he is now to occupy.

A clean and decent government is sure in the end to benefit our citizens in the material circumstances of their lives; but each citizen should be appealed to to take part in bettering our politics, not for the sake of any possible improvement it may bring to his affairs, but on the ground that it is his plain duty to do so, and that it is a duty which it is cowardly and dishonorable for him to shirk. * * * * No legislation can supply the lack of thrift, industry and energy; but it is easy enough by unwise or dishonest legislation or administration to nullify them absolutely; and it is, though less easy, possible by good administration, clean and wise legislation to give them the fullest possible scope.—*President Theodore Roosevelt.*

IS ORGANIZED WEALTH A MENACE TO REPUBLICAN INSTITUTIONS?

[At the meeting of the Worcester Economic Club, Thursday, November 15, Mr. James Logan, general manager of the United States Envelope Company, gave an address in answer to the question, "Is Organized Wealth a Menace to Republican Institutions?" The paper is given in full.]

TO the question asked on the postal card announcement of this meeting: "Is Organized Wealth a Menace to Republican Institutions?" I answer most emphatically, *yes*, if unrighteously managed.

In our use of a word we often clothe it with a narrow, contracted and distorted meaning so that the word phases a great many people.

There are still a great many people who are phased by the word theatre. In their thought that word stands for something which is thoroughly bad, but these same people would go to see a play in Mechanics Hall and be delighted with it, but they cannot yet quite go the word theatre.

To knock balls round on a table covered with green baize cloth with a cue is all wrong, but to knock balls round on green grass with a mallet is all right. It is the word billiards which phases them.

In like manner the word corporation in the thought of a great many people who do not think very deeply has come to stand for all that is mean, low, base, tricky and dishonest in industrial and commercial life. These people are phased by the word corporation. In their thought because a corporation is large it must of necessity be corrupt, but that does not follow.

There are corporations and corporations and corporations, and in what I have to say to-night I shall not deal with the railroad corporation, nor with the public service corporation, but with the industrial corporation. I know just a little about that.

I am not a pessimistic dyspeptic; I am optimistic enough to believe that the movement of life is upward. The standards of commercial and political life are not as high as they ought to be, but I am persuaded that there never was a time when they were higher, that there is more honesty, truth and charity, more real religion in the world to-day than ever before, though it does not find expression in the ecclesiastical language of the past. I am prepared to say that I believe the large corporation is less arbitrary and dictatorial and more honest than were the proprietors of the constituent companies that form it. This is not my personal opinion alone, but it is the opinion of a large number of other men who have had opportunity to make comparisons.

We have heard much of late about railway rebates, but we need to remember that up to within a few years railway rates were not fixed and rigid as they now are, but transportation was bought as any other commodity was bought: the buyer of transportation made the best bargain he could, and hardly anyone paid the printed schedule. Now bear in mind in those days goods were sold almost entirely F. O. B. cars, and the merchant buyer was the man who haggled about the rates and who finally got the rebate, for in those days he paid the freight. In time other manufacturers and merchants being established in new territory, the manufacturer or merchant who formerly had that trade was obliged to quote a delivered price to hold the business, and then the manufacturer and merchant inherited the rebate conditions which the former buyer had established.

No one in those days looked upon it as wrong, but each buyer of transportation had driven the sharpest bargain he could, exactly as he did in selling his goods over the counter. If he could not

get $2.50 per yard for a silk dress, he took $2 or $1.90. No self-respecting merchant would do business on that basis to-day. The one-price store has made that jockeying an impossibility; we have now come to the point where railroads must treat their customers alike; the law of the land has now moved up to a higher ethical standard, and now says it is unlawful to do what once upon a time everybody did. That is exactly the way all law grows; some one has committed the overt act, and then we legislate and enact the restraining statute. I feel that I can talk with perfect freedom on the railway rebate question, for the corporation which I have helped to manage has never taken a railway rebate in the almost nine years of its existence, and in talking only a few months ago with the manager of a forty-million dollar corporation, he told me his company had never taken a railway rebate, and I have faith in the man to take him at his word.

Notwithstanding the recent exposures of corruption and graft in high places, I believe there never was a time when so large a proportion of men in business and political life were under the direct influence of the "Sermon on the Mount," and the "Golden Rule." I believe with a recent writer who said, "Christianity is not merely an expectation concerning the world to come, but it is a motive which makes commerce more honest and which concerns not merely what a man calls his soul, but his whole life.

Henry Drummond, in his beautiful essay on the "Perfected Life," said in respect to Christians, "God is all for quality, man is for quantity;" but the immediate need of the world at this moment is not more of us, but, if I might use the expression, a better brand of us. To secure ten men of an improved type would be better than if we had ten thousand more of the average Christians distributed over the world, and that great truth is not exhausted when applied to Christians, but it applies with equal force to all the ordinary activities of life, including the management of corporations.

The only lasting reforms for political or industrial evil must come through the awakened conscience of the individual man regarding his personal duty in the administration of a trust.

There are grave perils confronting the republic, and the most optimistic man must seriously consider them.

There is a peril in great wealth unrighteously used, but great wealth can be so used as to be made the channel through which unnumbered blessings will flow to mankind.

As the manager of a corporation I say there is a peril in the great corporation unrighteously managed, but the corporation is our creation, and it is not above its creator. It is here to stay; we could not do business to-day without it. It is not to be destroyed, nor is it to be bound with fetters so that it cannot do its proper work, but it is to be wisely controlled and righteously managed.

There are two distinct and separate propositions in the corporation question. One is the stock or speculative side, the other is the industry. Most of that which has been written has dealt with the first proposition and next to nothing has been written about industry itself, and yet that is the all-important side of the question, for, let stock quotations fluctuate as they will, the thing which gives intrinsic value to or takes value from the securities of the company is the management of the industry.

Too many of our larger corporations are managed at the present time, not in the interests of the stockholders, employees or consuming public, all of which have rights which must be respected, but in the interests of the stock speculators; and an industry has often been ruined because more thought was put upon the stock ticker than upon the business, the policy for the conduct of the business too often being determined, not by what would be best for the industry, but by what would best "bull" or "bear" the stock market.

We need to remember that the men in industry who are the actual managers, and who are devoting their best energies to the development of efficiency in the productive working force, and of intelligence in the management of the commercial side of business, are not, as a

general proposition, interested in the speculative doings of the Wall Street manufacturers, whose finished product has been called "securities," if they can be so designated, without doing violence to the truth.

For example: Take the United States Ship Building Company of unsavory fame. While that held the attention of the public we heard a great deal about the promoter, banker, financier, creditor, bondholder, stockholder, but we heard nothing about the industry.

The corporation is to be the means by which the people are to own and operate the industries of this country, and I believe the consolidations of the past eight years are simply a step in that direction. The United States Steel Company is now owned by about 60,000 people. In 1898 ten envelope companies were combined into one corporation; one of these ten corporations had about thirty small stockholders. In the other nine firms or corporations there were, all told, about twenty-five individuals, among whom were divided all the profits made by these nine companies. To-day there are about fourteen hundred stockholders, hardly one of whom under the old order could ever have gotten even a single share of stock.

I believe that the managers of these corporations will, in the years to come, administer their trust with the same fidelity as that shown (not by some of our great insurance companies), but by our great institutions which take the small savings of the many, and combining them into a mighty stream, then put them at work for the service of mankind. Savings banks are owned by the great mass, and I believe eventually industry will be so owned, and this is, to my mind, the way in which the transfer from the few to the many will be brought about.

The old theory on which business was conducted was to maintain a fictitious market, which paid a large margin of profit. The large corporations' new theory of business is a small margin of profit on a large volume of business.

Permit me now to illustrate how the large consolidated corporation steadies the market.

The price list established by the consolidated corporation is not guessed at by rule of thumb, but is wrought out on a scientific basis of accounting, and that price list is the base from which not only the consolidated corporation does business, but every one of its competitors, not that the competitors of the large corporations altogether adhere to either list prices or standards for quality, but the list as established is the base line from which they make all their calculations. I believe I am perfectly safe in saying in not one single industry does the large corporation control the market. It maintains at great cost a system by which its costs of production are very accurately determined, and when a new price list is issued, every competitor will duplicate that list within forty-eight hours, or just as soon as they can get it through the printing office. They are not called upon to exercise one particle of judgment, and they don't; they simply follow copy, and they follow it so accurately that if there should happen to be a blunder in the list, they will duplicate the blunder. From the fact that all the manufacturers print practically the same list, many persons labor under the mistaken notion that there is an agreement or understanding between all the manufacturers, but such is not the case.

Now suppose there were no large corporations to establish a price list or base line. Suppose that not only all of the competitors of the so-called trust or large corporations, and also each of the constituent companies which make up the larger corporation were making their own list prices, with absolutely nothing to guide them except the very imperfect data which some of them formerly kept. I have not a particle of hesitation in saying that in the next three years half of them would go out of business. That is one of the steadying qualities of the large corporation, and some of the competitors of the large corporation who talk loudest about fighting the octopus, are in business to-day simply because the large corporation uses brains in the conduct of its business, and thus the ignorant competitor is saved from himself.

Let me suggest a way in which the large corporation helps the workingman. It is common knowledge that when there is a time of depression the workingman's wages are the first to be reduced, and his cut in wages always comes before the prices of the things he has to buy have been lowered. In a time of depression wages are the first to go down and the last to go up.

Late in 1903 and in the early months of 1904 some lines of manufacturing industry passed through a period which bordered on depression. The word depression is a little too strong to accurately describe the conditions, and perhaps it would be better to call it a season of slackened activity. In a sense, manufacturing industry marked time, and on the whole there was not much headway lost, but the stock market or speculative side of industry passed through a revolution early in 1904. Yet there was no panic in industry itself; on the contrary, through it all there was a steadiness which it has been hard for me to account for except on the theory that it was the direct result of the large corporation, which, through all the fluctuations in Wall Street, held a steady hand on the conduct of the business, and did not paralyze trade by cutting down wages and by demoralizing the market price of goods. The Wall Street captain of industry might be gambling in the smoking room, but the real captain of industry was on the bridge and brought his craft safely through the gathering storm.

We often hear the expression, "the soulless corporation," and too often it has deserved to be called "soulless." but the individual in the conduct of his private business can be and often is more arbitrary, dictatorial and dishonest than the so-called soulless corporation. The burden of the coming years will be to give to these great aggregations of capital, which are to be the mighty servants of mankind, a soul inspired with righteousness and a spirit of divine service.

Character is a child of slow growth, and in our thoughts we give to the word character a narrow and contracted meaning, applying it generally only to man, but we must broaden our conception of what that word stands for and apply it in the years to come to that creation of modern industrial conditions which unthinking men are wont to call "the soulless corporation." If it is to stand, and I believe it is, it must maintain a reputation which has for its foundation character.

The consolidated corporation starts with a severe handicap, it labors under suspicion it has an unsavory reputation, and in the mind of the general public it has no character whatever. This is largely on account of the doings of the promoter and those who, with him, worked a gold-brick bunco game (which in some cases would have made a vendor of green goods on the Bowery blush) by unloading upon the consolidated company dead and dying concerns, some of which were acquired on a basis away beyond their actual value or their earning capacity.

The adjustment of some of the promoters' iniquity is the work of this decade, and there are those who, during this transition period in industry, while these dead and dying concerns are being cared for by the undertaker, will suffer financial loss, and it is cold comfort to suggest to such sufferers that when these losses have been absorbed, out of this hardship and loss is to come to industry and to the public a great and permanent economic gain, and yet is not this the record of every step of progress that has ever been made?

Every generation pays the price which brings the blessings to succeeding generations. The great Civil War from '61 to '65 brought suffering and loss to millions, but the price was paid and we enjoy the blessings of a free and united country which our fathers, mothers and brothers purchased for us with loss and suffering. In our recent war with Spain this generation paid the price which freed a nation alien in race and religion, and with no ties to bind us to them other than those of a common humanity.

No doubt there are many who might question whether the whole island were worth the sacrifice, and yet when we get far enough away from the present to

get the proper perspective and see the new Cuba which is to be, freed from the inhuman tyranny of Spain and the ignorance and superstition which for ages have held her back, take her place an island gem among the nations of the earth, men will say that it was worth all it has cost, but those who paid the price suffered without receiving the fruit of their suffering.

Now how am I to apply these illustrations to present industrial conditions? Through the large corporation, business is to be brought to a more scientific basis; better methods are to be wrought out for the conduct of business. The management of the large corporation is to do for industry what the inventor has done with machinery, for, after all, a machine is organized thought, and while no patents are granted for improvements in management, there are just as real and valuable inventions in the field of organization and management as there are in the field of the mechanic arts, and it would almost seem as if a large part of the progress of the future must come along that line, for in certain directions it would seem as if machinery had almost reached the limit, for in some lines of industry, even though the machine could be operated for nothing, the saving would be very small.

The next ten years is to be the great era of organized management, and by scientific management the productive capacity of industry will be greatly increased, the savings from waste and the increased product of the machine will produce a lower cost of production, and by this lower cost the comforts and the luxuries of life will be brought within the reach of millions who otherwise must do without. This in turn will create an increased demand, to supply which will provide work for more people than were employed before the new processes were made effective.

We hear some men deplore the conditions produced by what they are pleased to call this machinery age, but by the machine, man has, in a large measure, been emancipated from laborious toil, and the hours of labor have been greatly reduced, and there have been brought within the reach of millions the comforts and luxuries of life which even kings could not once have enjoyed, but the machine had to fight its way and demonstrate its right to exist.

I believe the large corporation is to be the machine, if I might use that expression, for bringing in the shorter working day for the laboring man. It ought to come, but it must and will come by degrees and not by drastic revolutionary measures. The large corporation will be in a position to adjust the conditions and say we will do this, and other organizations will be obliged to follow.

I hope and expect to live to see the day when eight hours will constitute a day's work (although personally I never expect to get eight hours for myself). Some trades have eight hours now, and stop work at five o'clock in the afternoon, and in my opinion the hour from five to six is worse than wasted. The workman stops work at five and kills time till supper is ready, and killing time never yet produced efficiency or made for better things. The man who does not value time has not been a factor in the upward climb of the human race.

When the eight-hour working day is established, I believe the day's work should begin at eight o'clock and end at six, with an hour for the noonday meal, five days each week, and on Saturday stop at twelve o'clock the year round.

As I have just said, to cut off the working day at five o'clock in the afternoon means to worse than waste an hour, and I am not talking at random when I say that the saloon during that hour in the afternoon from five to six o'clock gets too large a proportion of the workman's wages. He has nothing special to call him home till supper is ready, and it is so easy to drop into the saloon, which too often is the workman's club, to while away the time.

If that hour were cut off in the morning instead of at night, there would be two distinct gains: first, the workman would be much less likely to spend that hour in the saloon; comparatively few men drink alone; it is good fellowship which leads them to the saloon, and good fellowship is much more in evi-

dence between five and six in the afternoon, where a half dozen workmen are returning from work together with an idle hour on their hands, than in the morning hour from seven to eight, when the workman is on his way to his work, with no time to kill, but, as is usually the case, just time enough to get to his work at the appointed hour.

Second, the poor wife at home, whose work is never done, and who will never get an eight-hour day on this side of the great divide, and who will be lucky if she ever gets even a fourteen-hour day, would get that hour in the morning.

As things now are in too many workmen's homes the tired wife and mother, who needs an eight-hour day more than her husband does, must get up at five o'clock in order to have breakfast ready, so that her husband can be at work at seven. If the hour for beginning work was eight o'clock, then that tired wife and mother would get the benefit of the hour from five to six o'clock in the morning, and thus husband, wife and family would all get the benefit of the shorter working day which only the husband now gets.

I believe also that the working man with a real grievance is full as likely to get a respectful hearing and final justice from the large corporation as he is from the individual employer conducting what he is pleased to call "his own business." In a labor controversy a position is often hastily taken and the party taking it feels that that position must be maintained whether right or wrong, and that position is more likely to be taken by a man managing his own business than by the manager of a large corporation. I believe I am inside the truth when I say that the manager of the large corporation is less likely to stand on his dignity and rights than the individual employer is.

We need to remember that it was the attitude of many employers toward the workmen in their own shops which made the walking delegate a necessity. Bear in mind, the walking delegate became a factor before business became so impersonal, practically before the large corporation in so large a sense controlled industry. He was a product born of conditions, which came into being when the individual employer could and did say, "This is my business; I own it, and I will do as I please with it," unmindful of the fact that no man has a right to say that without qualification.

Away back in the dark ages that poor, benighted savage who first rubbed two sticks together and produced fire; the man who first harnessed falling water for the service of man; James Watt, who first harnessed steam for the use of mankind, and all the members of that great unnamed, unnumbered army who have each done their part on the firing line of advance, made possible the business which such a man says "is mine, and I will do with it as I please," these men who have done their work and passed to the great beyond did their work also for the great family of mankind and not entirely for him.

The workman who was delegated to act as the spokesman for the employees, no matter how just the cause which he presented, was often marked for dismissal, and so in a sense it became a necessity to have an outside man to act as spokesman who could not be disciplined by discharge, and there was thus brought between the employer and employee an unpleasant personality without a personal interest in either employer or employee; often clothed with great power, but without a knowledge of business or industrial conditions, often wholly lacking in judgment, tact and courtesy, whose very attitude was an invitation to industrial strife. To meet day after day with such a personality; to discuss the situation with a man by whom you are simply being held up; to listen to the arbitrary and insolent manner in which he made his requests (which could with more truth be called demands); to hear the open and insinuated threats that if his demands were not granted he would shut down your factory and not allow your present employees to work, nor allow other operators to take the places made vacant; to boycott your product and ruin you,—to handle such a problem and keep sweet, and not lose one's temper, requires a large man endowed with divine grace, tact, patience plus, and ability of a high order.

Capital and labor are being concentrated in the hands of men who are to be given great power, power such as even kings did not formerly have, and the highest wisdom and the best thought will be needed to rightly direct and wisely control these two mighty servants of mankind, neither one of which must be master, but both brethren. Capital can do nothing without labor, and labor is powerless without capital, and both need brains for direction. The men who will in the coming years control these two mighty forces need to be large men, with high ideals, and in that lies our only hope for the future, for large men inspired with high ideals can come to agreement when smaller men would drift apart.

The captains of industry of the future must be taught the great principles of business, and to that word principles must be given its largest and best meaning. They will not reach the highest rungs of the ladder by short cuts in ladder climbing; it will be one rung at a time, up, up, into the clearer air, where, if a man will keep his head clear, he will have an ever-widening horizon, and as he climbs higher he must remember that more people can see him, and his acts must bear the scrutiny of the crowd. We have had some captains of industry to whose record we do not point with pride. He ought to remember that "life consisteth not in the abundance of things which a man possesseth," and that a man's true value consists not in what he has, but in what he is. He ought to remember that the man who reaches the end of life with only money is poor indeed, and in the getting of which he can part company with all his friendships, which are the finest assets of life. He ought to remember "that unto him to whom much is given, of him much will be required." Too often in our thoughts we limit that quotation to mean money, but in the years to come I am persuaded it will be given its larger and truer meaning, that of service, and may we whose privilege it is to command a large or small unit in the great industrial army on the firing line of advance, inside the zone of fire and smoke, where the atmosphere is not always clear, and where personal interests sometimes obscure real conditions, may we see our duty plain and be able to say in the language of the great apostle Paul before Agrippa, "I was not disobedient to the heavenly vision."

All government is from the people, and the question is not whether the people shall rule, for they do rule; but whether their governments shall respond to their will quickly and without disorder, or sluggishly and with culminating upheavals.

We all appeal to public opinion, but public opinion has no full and direct method of expression. It is inarticulate. The complete initiative and referendum would make public opinion articulate. It could then speak for itself, and we should no longer be dependent upon a political priesthood for interpretations of its commands.—*Louis F. Post, Editor of the Public.*

CONDUCT OF A SUCCESSFUL MACHINE SHOP.

[Mr. John R. Back, superintendent of the F. E. Reed Company, one of the most widely known lathe manufacturing concerns in the country, has prepared a paper on the conduct of a successful machine shop, which has been given before the Worcester Metal Trades Association at its series of winter discussions. This is one of the most interesting papers on the methods of conducting a machine shop during the past quarter century which have come under his personal observation. Having been connected with the machine industry for more than forty years, no man in Worcester is better qualified to have prepared this paper than Mr. Back. His practical ideas and knowledge of the machine-making business easily place him in the foreground of Worcester's superintendents. The following is the paper in full.]

I HAVE spent over forty years in the machine shop, and have enjoyed every year of it, as every man should his life's work. In the last twenty-five years the methods of conducting a machine shop have changed greatly. Back in the seventies New England had many machine shops that built a nearly complete line of iron working tools that were used at that time: planers from 24″ to 72″ square, lathes from 14″ to 100″ swing, and upright drills in perhaps four or five sizes, and a number of special machines, building this whole line with a force of 75 to 200 men, it being impossible to systematize the method of manufacturing on account of the various sizes of machines built, and the comparatively small force of workmen. It was only when the new small shops began to do business on some one special tool that the larger concerns began to realize that we were becoming a nation of specialists, and the older concerns could not compete with the younger and more vigorous firms that were giving their whole time and efforts to some specialty.

Such concerns as Pratt & Whitney Co. of Hartford, Conn., Brown & Sharpe Mfg. Co. of Providence, Putnam Machine Co. of Fitchburg, Wood & Light and L. W. Pond of Worcester, Ames Co. of Chicopee, and others, were made up of the brainiest men that New England has ever brought out. Nearly all of these men have passed on, but the industries that they started still continue, if not in the same name it is easy to trace the connection.

But now how different. Take, for instance, the Brown & Sharpe Mfg. Co., with its 4000 employees, concentrating nearly its whole efforts to building four lines only—the grinding machine, the gear cutting machine, the automatic screw machine, and the milling machine; as with the Pratt & Whitney Co. dropping out their old line of planers, drills and lathes, and making a specialty of gun tools and automatic machinery; the Putnam Co., working principally on tools for railroad shops, while some of our newer firms are specialists in the most modern sense; the Woodward & Powell Co., planers only; F. E. Reed Co., lathes only; Prentice Bros. Co., drills and lathes only; Whitcomb-Blaisdell Machine Co., being a consolidation of a planer company and a lathe company, building these two lines only; and so on through all of the smaller and well-managed shops. This is not true only in mechanics, but in all other walks of life. In law we have the patent lawyer, the corporation lawyer, the court lawyer, the ambulance chaser, and the general all-round crook.

In medicine we have about a dozen different schools—allopathy to osteopathy—but the three-score-years-and-ten rule still holds good, so that we will take it for granted that the successful machine shop of to-day is one that is confining itself to a special line of work, whether it be iron-working machinery, wood-working machinery, textile machinery, engines or electric motors.

As this paper must be on the "Conduct of a Successful Machine Shop," we

will also take it for granted the office chairs of the president, vice-president, treasurer and secretary, chief accountant, purchasing agent, head stenographer, cost clerk, paymaster, etc., are all securely held down by proper persons. Incidentally let me say right here you do not need to go any further than this to find out the *unsuccessful* conduct of *some* machine shops.

We will also take it for granted the business is being conducted in a fairly modern shop, well lighted, with fair methods of handling the class of work to be executed, and that the office is not only willing but anxious to install any reasonable amount of new tools that the shop can prove are dividend payers.

Now, then, in my humble opinion, the most valuable asset in a successful machine shop is a corps of "intelligent, industrious, moral workmen," and the burning question of to-day is to procure this class of men and what methods shall be adopted to satisfy these men, and make the machinist's trade attractive to the rising generation, as it was twenty-five years ago.

The old method of conducting a machine shop was almost universally by the contract or the job work plan. In some of the larger shops the building of a complete machine, like the engine lathe, would be let to one or two men, these men hiring all their own help, having anywhere from ten to fifty men; while in other shops a machine like the lathe would be divided up among seven or eight job hands, so called, each job hand having from one to eight or ten men.

In those days the machine tools in a shop generally consisted of the lathe, the planer and the upright drill, with an occasional bolt cutter and gear cutter. But, with the advent of the cutting-off machine, milling machine, screw machine, and other special machines, it was found necessary, in order to get proper returns from these special tools, the operator must be an expert in the handling of the same, and so all the work of the various job hands should be done on these special tools, and this was the cause of much dissatisfaction; and the main cause, I think, of wiping out the job hand system, and getting back to day work.

Let it be known right here that I am a firm believer in day work, pure and simple. No premium plan, no percentage plan, no job work or contract system; for the reason that all of these different plans, although they might for a while increase the production, and possibly for a few months increase the wages of some of the workmen, they will all break up the discipline of the shop, will all tend to lower the quality of the workmanship, and as sure as the sun rises in the morning they all tend in the end to the lowering of the standing of the best mechanics; and any good that can possibly come from the adoption of any of these systems can be obtained just as well under day work, and department managers, or what are now called "gang bosses." This will be denied by those who believe that the premium plan is the only way to successfully run a machine shop.

A few years ago I became very much interested in this system, and invited a friend of mine, who claimed to be a "past grand master" of this system, to pay us a visit, and look the situation over, and advise me as to its adoption. After telling him that I feared the quality of our work would be lowered, he assured me that by a rigid system of inspection the quality would be raised and *not* lowered.

At that time we purchased a machine tool from the company where my friend was employed. I examined it carefully, and noted that the design was O. K. The proper distribution of metal had been well looked after, but I was anxious to learn about the quality of the workmanship; suffice to say that from the first some parts or other of this tool were in the hospital, and the work that was produced on this tool was not up to the standard; and after a while it was taken out and sold as a "machine made by a well-known concern, been used a comparatively short time, nearly as good as new."

That was about the same kind of a guarantee that David Harum gave the deacon in the well-known horse trade, but it may be said that the whole system should not be condemned by one example, and it should not be.

A well-known tool builder, who has in the last few years put nearly his whole shop on this system, asked the question of a number of builders of tools in his class, when they had met on a certain occasion, if something could not be done to determine what stand the builders should take in the matter of complaints from customers as to poor workmanship, etc., which, he said, seems to be increasing from year to year. You have all heard the conundrum, "Why does a married man live longer than a single man?" The answer is, "He does not; it only seems so," and the poor tool that I have mentioned, and these growing complaints of our premium plan tool builder, might not be on account of this plan of conducting a machine shop, but it certainly seems so.

When any of our best known machine tool builders will print on the first page of their catalogue that to "improve the quality of their product they are now running their factory on the premium plan," such fellows as I will have to take to the woods. Manufacturers who were hiring help twenty-five or thirty years ago will remember that when a mechanic who had arrived from England, Scotland, or in fact nearly any part of Europe, and applied for work, when asked what kind of a workman he was, would reply, "I am a turner," meaning a lathe hand; or I am a borer, meaning he was a boring mill hand, or a planer, what we now call a planer hand; or I am a fitter, meaning he was an all-around floor hand, an expert in chipping, filing, scraping, etc.

This seemed very strange, indeed, in those days, that these men were not all-around men, like men we had; but, if you will stop and consider, you will realize that we have not only adopted the Johnnies' methods, but have gone him one better.

An advertisement which I read lately was as follows: "Wanted—Boring mill men, men for large and small lathe work, men for large planer work, screw machine operators, radial drill hands, flat turret lathe operators, first-class vise hands, tool makers and die sinkers." Thirty years ago this would have read: "Wanted—a few first-class machinists."

This specialization of workmen has come to stay, but the cry is sometimes heard, "What will we do for all-around men in a few years?" Do not worry; the workman who has worked himself up in the front rank of any of the specialties will do *more* in his specialty than the "old timer" ever could do, and in the other branches will do as *much* as the "old timer" did, with a very little practice. The better class of mechanics to-day read more mechanical newspapers and magazines in one month than the "old timer" did in one year; and this is the class of workmen that should be pushed to the front, and these positions should be held up to the apprentice as the ones to be worked for, and should be given to him when he can fill them. Wherever the premium plan in any of its forms is used, you always hear a great deal about the rigid inspection that the work is put to as it passes along from beginning to completion.

Now bear in mind that this corps of inspectors, and the clerks that juggle with its necessary card system, are all "dead wood," or non-producers; and in many cases which I know of they have proved to be very expensive luxuries. Every manufacturing industry should and must know the cost of its product, but I doubt the wisdom of having a cost system which is so complex and costly that all the profit which you have made is lost in finding out that you have not made any; when it can, and is being done in less elaborate and costly methods in some of our most successful manufactories.

In the day labor and gang boss system there is not a piece of dead wood, or a non-producer, in the whole shop, except the superintendent and foreman, all the gang bosses being actual producers every hour in the day.

Care must be taken, of course, to see that the various departments are not so

large that the gang boss cannot be a producer. There may be cases where this rule cannot apply, but it will be the exception.

Under this method it will be readily seen that the gang boss is the inspector of his own department, not at stated intervals, but the whole complete time; working with, and being with his men, he knows every movement that is being made, and will detect anything that is being done wrong, and have it corrected, which is far better than to have it completed wrong, and perhaps be found out by the "gilt braided" inspector, and perhaps not.

The question will be asked, "How large should these gangs be?" They will vary according to the class of work to be done.

Planing will naturally be the largest in a tool shop, while perhaps the gear cutting (although being one of the most difficult) may be the smallest; it seems to me that not over fifteen men should be in one gang, and from that down to four or six.

Each one of these gang bosses should have as one of his men a person who is competent to take charge, in case of his absence on vacation, on account of sickness, and who, in case of his leaving the employ of the company, will be raised to his position.

By following this rule the company will always have a number of worthy men who are looking for an advancement, and working with that end in view.

It has been found very advantageous in some shops for each gang boss to have a specially prepared printed memorandum, which is filled out and collected twice a week, stating what is wanting in his department, to better enable him to push his work along.

These memoranda should go direct to the superintendent, and *not* to the office. If the superintendent cannot run the shop successfully without an everlasting nagging from the office, it is a positive proof that you need a new superintendent, or a new office force, and be careful that you know which is wrong before you make a move.

In the company which I have been connected with for the last twenty-six years, it has always been the rule that when the general plan of the policy to be pursued on certain work has been outlined and decided on in the office, it then become the duty of the superintendent to produce the results, and the office has always been willing and anxious to help in every way, and not interfere as to the means used in the shop for obtaining certain results. This is as it should be, and any other policy than this will surely bring less favorable results.

By the honest use of these memorandum slips the superintendent will be surprised how many weak spots in the shop will be strengthened, and how many little things will be called to his attention which otherwise never would be attended to. Each grievance should be attended to, and the slip returned to the gang boss, with such remarks as are necessary, and should be stamped by the superintendent.

So, then, for the successful conduct of the machine shop I would recommend first to the employers that they fill their shops (as far as possible) with a corps of intelligent, industrious, clean set of men. In ordinary times this is not a difficult task, but in such times as we are now having it will be somewhat harder to do.

As to apprentices, at least ten per cent. (10%) of the whole working force should be boys learning the trade, taken on at regular intervals, so that when one boy's time expired a new one would be beginning; and after carefully studying the apprentice system in Worcester I feel we must pay larger wages to this class of help than we have been paying, by at least twenty-five per cent. (25%), if we are to get the class of boys that we want to become our leading workmen. And as to handy men, that class of help so necessary in the shop to-day to operate special machines, and to do the better class of laboring work, employ *men* for this class of work, and *not* boys, and pay them good wages, so as to stop as far as possible the constant changing of this class of help; and last, but not least, by all means have the superintendent

divide the shop into departments, under proper leaders, who will be held responsible for the proper conduct of the help in his charge; and never go outside of your own shop for men for better positions, unless absolutely necessary, and do not fail to recognize the efforts and ability of your leading workmen.

And now a word to the workmen, for a machine shop cannot be conducted successfully unless the employer and employees work together for the general good of the shop.

Intelligent workmen now realize that it is better to be in the employ of a successful company than an unsuccessful one, therefore should try to give full value of honest work for wages received, and thereby help the company to successfully conduct its business, remembering that merit is being recognized today more than it ever was, and will continue to be recognized more and more if the standing of the better mechanics can be preserved or improved.

Now, then, if there is a scarcity of good workmen (and there is), and if our young men are not wanting to learn the machinist trade (and they are not), there must be a reason for it, and the reason for it is, in my opinion, that honest mechanical labor has lost a certain amount of its dignity. Our whole education from the beginning to the post-graduate course of the high school is too much on the academic side.

The boy who has been through the ninth grade seems to be perfectly willing to sell overall cloth in a dry goods store at seven dollars per week, but he is not willing to wear it at fifteen dollars per week.

The high school graduate is above manual labor of any kind. He is perfectly willing to go to work in an office of some mechanic who has come up from the ranks, but no dirty hands for him.

Why is it that the young man of today is steering clear of the mechanical trades? Is it because he hears his father tell that the man of forty-five or over is being crowded out by the younger men, with the co-operation and consent of the employers, or is it because he hears that a great many of the corporations of today are refusing to put into leading positions only graduates of some mechanical school?

Perhaps these reasons might prejudice the boy from learning a trade, but the true cause I think is that the dignity of labor has been lost sight of, and in all schools, from the ninth grade up, our boys are being taught, *unintentionally,* that they *must not* labor with their hands, or, in other words, do manual labor.

This has always been true to a certain extent. You have read that when the Saviour was on earth doing His mighty work, Galilee's 400 turned up their noses, and said in derision, "Is not this man the son of Joseph, the carpenter?"

Surely, it is not for me to criticise the works of our educators. They are doing wonderful work in their line, but the growing talk of industrial education proves that there is a kind of education that has been overlooked or ignored.

Mr. M. P. Higgins has told us that the examinations to enter our Worcester technical school were about as difficult as to enter college, and that the four-year course of study was as exacting and severe as a college course for any of the professions.

Now I would not lower the standard of the examinations or take away any of the studies of the course that have produced such wonderful results with its graduates all over our whole land, neither would I say a word against our high schools, the best in the world, with a corps of teachers noted all over the land for their painstaking, honest efforts to bring out the best there is in our children, but I do say, and it is coming to the front, that somewhere between the first year in the high school, or perhaps the graduating class of the ninth grade, and the graduating class in the technical school, there is great need of another school for those who want to fit themselves to be the captains of industry in Worcester in years to come.

I will take your time here to give one illustration: "A Worcester boy, a son of a mechanic, went through the ninth grade, entered the high school, and after four years of most diligent, studious ap-

plication, finally graduated. He then took the examinations for a technical school, and finally managed to get in edgeways, and then began the hardest time of all to keep up in his studies, for although the boy had more than the usual amount of horse sense, when it came to some of the deeper studies, he found out, as he did in his Latin, French and other dead studies in the high school, that he was looked upon as a misfit; so, at the end of his third year, he was invited to get out, or remain on conditions; the conditions being distasteful, he got out.

The boy had already decided to make his life's work that of an electrical engineer, and so applied to the General Electrical Company at Lynn. It was a little humiliating to have to apply as a student of the "Tech" instead of a graduate, as he had hoped to do with other boys in his class; but this was a blessing in disguise, although it looked far different to him at this time.

He was given a position by the company, and started on the regular three years' course, which all Tech. graduates have to take. His strict attention to business and his willingness at any and all times to do with a will anything which was given him to do attracted the attention of his employers, so that at the end of eighteen months he was advised by them to leave the regular course of study, and take a higher position in the engineer's office. This he refused to do, realizing that the practical knowledge he was getting would be of more service to him in years to come. Finally, six months later, he was transferred to the engineer's office, and is virtually two years ahead of the graduates of his own class, both as to position and salary.

I cite this case to prove that perhaps in the industrial line some of the so-called frills in education might be modified, with very little danger of any loss thereby.

James J. Hill, the great railroad king of the Northwest, has all of his life been too busy to talk much, but at a gathering of his friends recently at St. Paul, made the most interesting speech that I ever read, and he advised as follows:

"Teach the boys to work. I am not going to find fault with education. It never hurt anybody, but if in place of spending so much time and money on languages and higher studies, we fitted them for the life which they are going to follow, for the sphere in which they are going to move, we would be doing more for them.

"I know that in two or three, more or less, railroads in which I am interested the pay-rolls cover from 80,000 to 90,000 people. We have tried all sorts of young men—college men, high school men, and everything else, and I will take a boy at fifteen years of age who has to make a living (his chances will be better if he has to contribute to the support of a widowed mother), I will take him and make a man of him, and get him in the first place before you would get most of the others to enter the race with him, simply because he has to work, he has the spur of necessity, he *must* work."

There is another kind of evening education which is coming to the front in some of our mechanical cities which is sure to bring good results. This is well described in a recent report of the School Committee of Springfield, Mass. It is as follows:

"The object of this school is mainly to give men already employed in the trades, who know at least a part of the trade in which they are employed, an opportunity to broaden their mechanical training and make themselves more efficient workmen. It is not the function of this school to train apprentices as such, but to supplement the imperfect and highly specialized training of modern shops by giving machine hands handy men and apprentices, so far as there are any apprentices, an opportunity to gain practice in a greater variety of work than would ever be open to any one man under the modern system of machine production.

"The aim of the school is to enable a mechanic to acquire a wider range of practical knowledge to improve the quality of his work, and thus reach a higher classification in his trade, with increased wages.

"This is a great advantage to the in-

dividual workman, but it does not materially affect the condition of the labor market in general."

I feel that this kind of instruction should be given in Worcester in evening classes to mechanics and young men employed in mechanical trades in working hours; and I also feel that this work should be taken up (in part at least) by the Worcester branch of the Metal Trades Association.

When I was an apprentice, back in the sixties, every apprentice, nearly all the best workmen, and all of the employers were members of the Worcester County Mechanics Association, an association formed sixty-four years ago by the leading mechanics of the city, for the advancement of mechanical arts, and the social and industrial life of its members, and has had on its list of members the best that our city has produced.

Fifty years ago this noble band of mechanics designed, built and paid for a hall which has not been excelled in all these years, and it stands to-day, as it has all these years, as a monument to that honorable, brainy band of mechanics that laid the foundation for the city of Worcester to-day.

In later years, with the opening of the city evening schools in drawing, etc., and our magnificent Free Public Library and free reading room, it has been found difficult to compete with these branches, which are supported from the public purse; but in the line of the new industrial education, which is surely coming to the front, this old organization is determined to again take its place in the front rank, and a committee is now appointed to consider, and report back to the trustees, the proper course to pursue, and this committee (some of whom are members with you of this branch of the National Metal Trades Association) asks your hearty co-operation in this effort in our city this winter, to make a start in some branch of industrial education, as previously outlined.

And now, in conclusion, let us remember, whether employer or employee, we are citizens of no mean city. This was the home of Ichabod Washburn, who made possible our great wire works; George Crompton and Lucius Knowles, who made possible the great industries which bear their name; Ethan Allen, the pioneer in the manufacture of firearms; Aurin Wood, Lucius Pond, Alonzo Whitcomb, and others in the machine tool line, who made it possible for Worcester to be known in every land on the globe; Loring Coes, so long with us that the word "wrench" did not seem complete unless his name preceded it, and scores of others, two of whom, William T. Merrifield and James Estabrooks, are very seldom mentioned, but whose lives and work did more to build up Worcester than any other two, because of the building of the old junction shop and the Merrifield buildings, where mechanics of small means could hire room and power, and begin in a small way; often with the help of the landlord until such times as they could walk alone. These two buildings have been the kindergartens of industries, not only in our city, but all over our land, and all of these men's lives and works were made possible by the skilled mechanics, which our city has always been noted for having in such great numbers.

Indiscriminate condemnation is as bad as indiscriminate approbation. The heart of America is sound and the conscience of America is alert, and it is because this is so that the robberies perpetrated in violation of the law by some labor leaders and the robberies perpetrated under cover of the law by some corporation magnate have aroused a passion of healthy indignation.—*Legislative Voters' League of Chicago.*

The Worcester Magazine

Vol. IX. CONTENTS FOR JANUARY, 1906. No. 1

Frontispiece. Mayor-elect John T. Duggan

Magazine and Municipal Comment.

Political Pendulum Swings Back . 3
Bancroft Hill for Public Park . . 4
Medical Inspection in Public Schools 4
Kindle Fire with Fire . . . 4
Increase of Salary for Mayor . . 5
Worcester's Year of Prosperity . 5
For Express Parcel Service . . 5
To Drive out Itinerant Venders . 6
Worcester Academy's New "Megaron" 6
Carroll D. Wright for Mass. Tech. . 7
For Abolition of Billboards . . 7
Crane for Important Commission . 7
Sure Indication of Industrial Peace . 8
Signal Value to Worcester's Future . 8

Evolution of Transportation Methods. By Mr. E. G. Connette . . 9

An Epoch-making Year. By Rev. J. M. Van Horn, LL. D. 14

Campaign for Rural Progress. By Kenyon L. Butterfield, A.M. . . 18

Board of Trade Notes . . . 21

Published monthly by the Worcester Board of Trade, 11 Foster Street, Worcester, Mass. Committee on Publication, Rufus B. Fowler, G. Stanley Hall, Irving E. Comins, Milton P. Higgins, George W. Mackintire. Terms $1.00 a year; single copies, 10 cents. For sale by newsdealers. Entered at the Post Office, Worcester, Mass., as second-class matter, May 10, 1901.

Spencer Wire Company

91 Webster Street, Worcester, Mass.

ALL KINDS OF

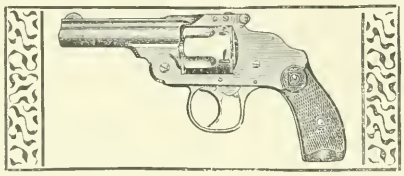
Wire and Wire Specialties

Send for our new 50-page
Catalogue

That Office Help

Is a source of continual anxiety to the business man unless he has the best. Poor help costs more than good help does. **Becker's Business College** has turned out the best class of help employed in Worcester. When in need of such help send to Becker's—the school giving the strongest business training in New England.

Telephone 378-3 **E. C. A. BECKER, Prop.**



Established 1871. Incorporated 1888.

HARRINGTON & RICHARDSON ARMS CO.,

Manufacturers of

FIREARMS.

Descriptive Catalogue on request. WORCESTER, MASS., U. S. A.

J. W. ARMOUR

Pattern Making for all kinds of Machinery. Variety Wood Turning

EQUIPMENT AND EXPERIENCE EXCELLENT

164 Union St., Worcester, Mass.

Telephone Connection.

Choice .... Building Lots

In the vicinity of Institute Park, Wor. Art Museum, Polytechnic Institute, also Massachusetts Avenue, Rutland Terrace, etc. . . .

Stephen Salisbury,

9 Main Street, Worcester.

Logan, Swift & Brigham Envelope Co. Division

WORCESTER, MASS.

Manufacturers of all kinds of

Standard Envelopes and Envelope Specialties

Sole Manufacturers of

The Improved Columbian Clasp Envelope

The best and most satisfying Merchandise Envelope made.

The Outlook Envelope

That insures economy and absolute accuracy in the addressing of all your mail matter.

Specialists in STEEL DIE STAMPING for Commercial Work. Samples and Prices of our Standard Goods furnished by your Stationer or Printer.

TYLER'S BUSINESS COLLEGE

Stenography, Bookkeeping, Commercial Law and Typewriting

Public Court Reporting and Typewriting. Stenographers and Bookkeepers furnished.

734 State Mutual Building, Worcester, Mass.

Established 1854

Hudson Belting Co.

Manufacturers of

Stretched Oak Tanned

LEATHER BELTING

Round, Twisted and Solid Belting, Strapping, Lacing, Rubber Belting. Special Belts for Dynamos. Hudson's Extra English Black. Also Wood Pulleys.

OFFICE AND FACTORY:

Eaton Place, WORCESTER, MASS.

"On Time" our watchword

Machine Jobbing, Special Machinery, Patents perfected and

Automobiles

repaired and stored

DAWSON MACHINE CO.

Telephone 2 Sargent Street

"Everything in Wire"

We manufacture from steel and brass wire a salable line of Hardware and Kitchen Goods Specialties. Belt Hooks; Universal, Jack and Plumbers' Chains; Coat and Hat Hooks; Garment Hangers; Blind Fixtures; Kitchen Wire Goods; Wire Nails, Tacks and Staples. Our line on sale at all Hardware and Department Stores. Special Goods made to order from wire.

***The* Wire Goods Company**

WORCESTER, MASSACHUSETTS

NORTON PRODUCTS

Lead at St. Louis

The Exposition has Awarded

TWO GRAND PRIZES

TWO GOLD MEDALS

For Best Abrasive Products and Grinding Machinery

Norton Grinding Wheels
Norton Alundum
Norton India Oil Stones
Norton Grinding Machines

NORTON EMERY WHEEL COMPANY
NORTON GRINDING COMPANY

WORCESTER, MASS.

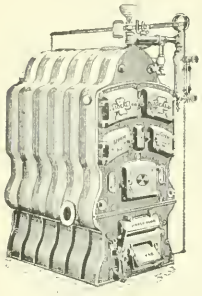
Plunger Elevator Co.,

Safe, Long-Lived, Economical, High-Speed Passenger Elevators a Specialty. . . . . .

Hydraulic Plunger
ELEVATORS.

OFFICE AND FACTORY.

BARBER'S, WORCESTER, MASS



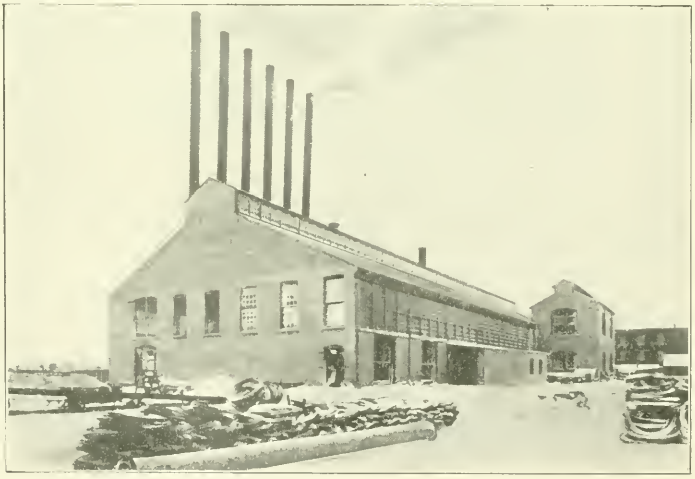
IDEAL BOILERS

Guarantee

Liberal Warmth, Economy of Fuel

Many people say so from experience.
Made in large variety of sizes to suit any requirement.

THE SINCLAIR CO., 28 Pearl Street, Worcester



Continuous Rolling Mills

Continuous Heating Furnaces

Continuous Gas Producers

Wire Mill Machinery

MORGAN CONSTRUCTION COMPANY

WORCESTER, MASS.

New York Office:
40 EXCHANGE PLACE

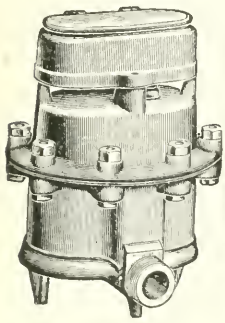
European Office:
52 RUE DE CONGRES, BRUSSELS

PHOTOGRAPHING & RETOUCHING · MACHINERY &c.

Half Tones
WOODBURY-CARLTON CO
made at No. 4 Walnut St.

DESIGNS BIRDS EYE VIEWS ART PRINT

UNION WATER METER CO.,



BENJAMIN F. OTIS, Pres. and Manager.
EDW. P. KING, Treas. and Supt.

Water Meters.

WORCESTER, MASS.

WORCESTER MACHINE SCREW CO.,

STANDARD SCREW CO. SUCCESSORS.

MANUFACTURERS OF

SET, CAP AND MACHINE

SCREWS

IN IRON, STEEL AND BRASS.

STUDS FOR STEAM ENGINES, PUMPS, ETC.

WORCESTER, MASS.

HATCH & BARNES CO.,

MANUFACTURERS OF

Doors, Sash, Blinds

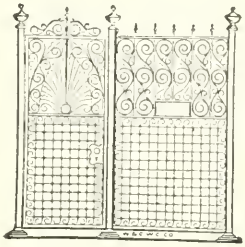
AND FINE BUILDERS' FINISH.

Practical Stair Builders. Newels, Balusters and Rails constantly on hand and made to order. Wood Turning a specialty.

Office, 196 Union Street, WORCESTER, MASS.

WRIGHT WIRE CO.

WIRE AND WIRE CLOTH



WIRE GUARD WORK.

Elevator Cabs and Enclosures

Coal Screens and Riddles.

POULTRY NETTING.

WORCESTER, MASS. PALMER, MASS

Duncan & Goodell Co.,

WHOLESALERS AND RETAILERS IN

Hardware and Cutlery.

We have the finest line of Table and Pocket Cutlery, also highest grade of Scissors, including all kinds from Finest Manicure Scissors to Tailors' Shears, to be seen in Worcester.

We make a specialty of Builders' Hardware and Supplies, and carry in stock a large line of best quality door and window trimmings.

404 Main Street, Cor. Pearl.

In writing to advertisers, please mention the Worcester Magazine.

JAMAICA WHERE SUMMER IS 12 MONTHS LONG

Nowhere can winter be spent so delightfully

THE UNITED FRUIT COMPANY'S
Steel Twin-Screw U. S. Mail Steamships

Sailings Weekly from Boston, Philadelphia and Baltimore

Round Trip Fare, $45 including meals and berth in stateroom Single Fare, $25

Write for Jamaica Literature describing and illustrating the Island and tours of interest. Address General Passenger Agent

UNITED FRUIT COMPANY

Long Wharf, Boston.

UNITED FRUIT COMPANY

Or call on either of the following Worcester Agents:

J. F. HEALY, 396 Main St. O. F. RAWSON, 391 Main St.
S. S. VAN ETTEN, 385 Main Street.

WORCESTER BUSINESS DIRECTORY.

MANUFACTURERS AND DEALERS.

AGRICULTURAL IMPLEMENTS.

Worcester Kemp Manure Spreader, Buckeye Mower, Bullard Hay Tedder, Worcester Rake. RICHARDSON MANUFACTURING CO., 84 Prescott St., Worcester.

ARCHITECTS.

George H. Clemence, Architect, Walker Building, Room 205, 405 Main Street, Worcester, Mass.

Stephen C. Earle, Architect, Room 45, Burnside Building, 339 Main Street, Worcester, Mass.

Fuller & Delano Company, Architects, 452 Main St. Worcester, Mass. Ward P. Delano, Robt. L. Fuller

Clellan Waldo Fisher, Architect. Office, 718 State Mutual Building, Worcester.

Frost, Briggs & Chamberlain, Architects, Offices 518 Main Street, Knowles Building, Worcester, Mass.

Edward Topanelian, Architect, Room 705, State Mutual Building, 340 Main Street, Worcester.

ASH SIFTERS.

"Hustler" Ash Sifter. HILL DRYER CO., 340-350 Park Avenue, Worcester, Mass.

BALL BEARINGS.

Worcester Pressed Steel Co., 100 Beacon Street. Automobile and Bicycle Parts. Metal Stampings.

BANKS.

People's Savings Bank, 452 Main Street. See Advt.

Worcester County Institution for Savings, 13 Foster St. See Advt.

Worcester Five Cents Savings Bank, 314 Main St. See Advt.

Worcester Mechanics Savings Bank, 311 Main St. See Advt.

Worcester National Bank, 9 Foster Street. See Advt.

Worcester Trust Co., 448 Main Street. See Advt.

BELTING.

Oak tanned leather belting always in stock. GRATON & KNIGHT MFG. CO., Bloomingdale Road See Advt.

Pure Oak Bark Tanned Leather Belting. Special Waterproof Belting, "B. & F." Belting, Dynamo Belts and other specials. Mill Supplies. J. F. & W. H. WARREN CO., 44 Vine Street, Worcester, Mass.

BLACKSMITHS.

Common Sense Shoeing Forge. JOHN J. GRADY, 162 Mechanic Street. Tel. 1028-6.

BOILERS.

The Sinclair Co. Ideal boilers. 28 Pearl St. See Advt.

BOLTS AND NUTS.

Bolts, cold punched nuts and washers, die making and metal punching. THOMAS SMITH CO., Frank W. Foye, 14 Cypress Street.

BOOK BINDERY.

Book Binders and Paper Rulers. J. S. WESBY & SONS, 387 Main Street and 50 Foster Street.

BOWLING SUPPLIES.

Balls, pins, and improved foot chalks. M A BARTLETT, 29 Cypress Street.

BUILDERS' FINISH.

Doors, sash, blinds, and fine builders' finish. HATCH & BARNES CO., 196 Union Street. See Advt.

BUILDERS' SUPPLIES.

Builders' Supplies. SMITH, GREEN CO., 32 Bloomingdale Road. See Advt.

BUILDING LOTS.

Choice Lots in vicinity Institute Park. STEPHEN SALISBURY, 9 Main Street. See Advt.

BUSINESS COLLEGES.

Bookkeepers, stenographers and typewriters. BECKER'S BUSINESS COLLEGE, 492 Main St. See Advt.

Tyler's Business College. Public and Court Reporting, 734 State Mutual Building. See Advt.

Business Men when in need of carefully trained Bookkeepers and Stenographers apply to C. B. POST, WORCESTER BUSINESS INSTITUTE, 476 Main Street.

CALENDARS.

Advertising Calendars, Blotters, Circulars, Booklets, Mailing Cards, Etc. PROGRESS PUB. CO., 377 Main St.

CARDING MACHINERY.

Twentieth Century Henderson Double Carding Process. J. H. WHITTLE, 150 Harlow Street. See Advt.

CHAINS.

Jack Chains, Ladder Chains, all kinds of Metal. HALE BROTHERS COMPANY, 42 Lagrange Street.

CIVIL ENGINEERS.

Plans, water supply and sewerage. H. H. BROWNING, civil engineer, 405 Main Street.

Civil Engineer and Surveyor. O. WILLIS RUGG, Room 824 State Mutual Building. Telephone 787-3.

CLOTHES DRYERS.

For Lawn, Balcony or Roof. HILL DRYER CO., 340 to 350 Park Avenue, Worcester, Mass.

CONTRACTORS AND BUILDERS.

Builders of public, commercial and manufacturing buildings and private residences. J. W. BISHOP CO., 107-109 Foster Street. Worcester, Boston, Providence, R. I.

E. J. Cross, General Contractor. Estimates furnished on any class of buildings. Office, 82 Foster Street, Worcester.

Public and mercantile buildings a specialty. THE NORCROSS BROS CO. See Advt.

General Contractors for all classes of buildings. SCOVILLE & WHEELER, 518 Main Street, Worcester.

CUT GLASS WORKS.

Rich Cut Glass. Factory and Salesroom, 17 Hermon Street. WILLIAM TAIT, Proprietor.

DECORATORS AND PAINTERS.

Artistic frescoing and decorating of churches, halls and residences, sign and house painting. SANDGREN & EHNBORG, 274 Main Street. Tel. 983-4.

ELECTRICAL ENGINEERS AND CONTRACTORS.

Electrical Contractors and Dealers in Supplies. We install Dynamos and Motors, Telephones, Lighting, Etc. PAGE ELECTRIC CO., 24 Pearl Street.

Electrical Supplies, construction Automatic Telephone Systems. PLUMMER, HAM & RICHARDSON, 619 Main Street.

ELECTRIC LIGHT AND POWER.

Electric Light and Power supplied by WORCESTER ELECTRIC LIGHT COMPANY, 66 Faraday Street, Worcester, Mass.

ELEVATORS.

Hydraulic plunger elevators. PLUNGER ELEVATOR CO., Barber's. See Advt.

EMERY WHEELS.

Grinding Wheels, grinding machinery and India oil stones. NORTON EMERY WHEEL CO. See Advt.

ENGRAVING.

Half-Tone Work done artistically. WOODBURY-CARLTON CO., 4 Walnut Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

ENGINE LATHES.

Drilling Machines and engine lathes. PRENTICE BROTHERS, Cambridge Street. See Advt.

ENGINEERS.

Mill Buildings, Steel, Concrete Construction; Power Installations. THOMPSON & GALLAGHER, 339 Main St.

ENVELOPE MANUFACTURERS.

The Largest envelope manufacturers in the United States. LOGAN, SWIFT & BRIGHAM ENVELOPE CO. DIVISION, No. 75 Grove Street, Worcester.

Envelopes and Envelope Specialties. LOGAN, SWIFT & BRIGHAM DIVISION. See Adv

All Kinds and sizes of Envelopes, also Paper Boxes. SHERMAN ENVELOPE CO., Office and Factory, 75 School Street, Worcester

FIREARMS.

Guns and pistols of all kinds. HARRINGTON & RICHARDSON ARMS CO., Park Avenue. See Advt.

FOUNDRIES.

Light and heavy Iron Castings. JACKSON STREET FOUNDRY, J. A. Colvin, Prop., 52 Jackson Street.

GAS ENGINES.

Greendale Gas Engine Co., manufacturers of Gas and Gasoline Engines. S. F. BURLINGAME, Manager. Shop 'Phone 1063-2.

HARDWARE.

Wholesale and retail dealers in hardware and cutlery. DUNCAN & GOODELL CO., 404 Main Street. See Advt.

HEATING CONTRACTORS.

Ideal Boilers, steam and water. THE SINCLAIR CO., 28 Pearl Street. See Advt.

Acetylene Lighting—Plants installed. THE SINCLAIR CO., 28 Pearl Street. See Advt.

HOTEL.

Bay State House, European plan. C. W. RIPLEY, proprietor. See Advt.

IRON AND STEEL.

Supplies for blacksmiths, carriage-makers. GEO. F. BLAKE, JR., & CO. Office and storehouse Mechanic and Foster Streets. Tel. 2508-2509.

IRON FOUNDERS.

High Grade Machinery Castings. STANDARD FOUNDRY CO., Tainter Street. See Advt.

INSURANCE.

General insurance agency. CHARLES E. GRANT, Rooms 711 and 712 State Mutual Building.

Life Policies. STATE MUTUAL LIFE ASSURANCE CO. See Advt.

LEATHER AND CANVAS GOODS.

Suit Cases and Bags, Toilet Cases, Music Goods, Etc. WARREN LEATHER GOODS CO., 80 Austin Street.

LEATHER BELTING.

Hudson's extra oak-tanned Leather Belting always in stock. HUDSON BELTING CO., Eaton Place. See Advt.

LOOMS AND REPAIRS.

Looms and Repairs CROMPTON & KNOWLES LOOM WORKS. See Advt.

LUMBER.

W. H. Sawyer Lumber Co. Hard Pine Timber a specialty. All winds Finish constantly in kiln.

Stone & Foster Lumber Co., Central and Union Sts. General line of lumber, wholesale or retail.

MACHINE JOBBING.

Machine Jobbing, Special Machinery, Patents perfected. DAWSON MACHINE CO., 2 Sargent Street. See Advt.

MACHINE SCREWS.

Machine Screws in iron, steel and brass. WORCESTER MACHINE SCREW CO., Beacon Street. See Advt.

MACHINISTS' TOOLS.

Planers a specialty, Machine Tools, Lathes and Drills. J. S. WHEELER & CO., 23 Hermon Street.

Lathes, Punches and Shears. W. C. YOUNG, 17 Hermon Street.

METAL SPECIALTIES.

Stove Trimm'ngs, steampipe collars and ferrules. MATTHEWS MFG CO., 104 Gold Street. See Advt.

MILL SUPPLIES.

Crawford & Co., 665 Main Street. Everything in Mill Supplies, Wool Stock, Cotton and Cotton Waste.

MOHAIR YARNS.

Manufacturers of Mohair and Worsted Yarns. QUEENSBURY MILLS, Worcester, Mass. See Advt.

OVERALLS.

Overalls, Shirts, Frocks, Etc. A. G. HILDRETH, 25 Hermon Street, Worcester, Mass.

PAINTS AND OILS.

Painters' Supplies and Lubricating Oils. F. M. HEATH & CO., 40 Southbridge St., opp. Post Office.

PATENT CURTAIN RODS.

Adjustable Curtain Rods and Sockets. FOWLER & CO., 65 Beacon Street, Worcester, Mass.

PATTERN-MAKERS.

Pattern-making for all kinds of machinery, variety wood turning. J. W. ARMOUR, 164 Union Street. See Advt.

PRINTING.

Good Printing quickly executed. F. S. BLANCHARD & CO., 6 Walnut Street. See Advt.

Printing and Engraving, HURLEY'S PRINTERY, 38 and 44 Front Street.

Posters, Show Cards, Theatrical and Commercial Printing. C. R. STOBBS, 16 Mechanic Street.

Commercial Printing and Blank-book Work. O. B. WOOD, 50 Foster Street. See Advt.

RAILROADS.

Boston & Albany division of N. Y. C. & H. R. R. R. See Advt.

RAZORS.

Manufacturers of all styles, including Safety Razors. J. R. TORREY RAZOR CO., Chandler Street.

REEDS.

Organ Reeds and Reed Boards. HAMMOND REED CO., Worcester, Mass. See Advt.

RAZOR STROPS.

Manufacturers of all styles of Strops, also Stropping Machine. J. R. TORREY & CO., Chandler Street.

ROLLING MILLS.

Continuous Rolling Mills, Gas Producers and Wire Mill Machinery. MORGAN CONSTRUCTION CO. See Adv.

ROOMS WITH POWER.

Rooms with power in business district. ESTATE OF WM. T. MERRIFIELD, 100 Exchange St. See Advt.

SHOE MANUFACTURERS.

Heywood, the Worcester made Shoe. HEYWOOD BOOT & SHOE CO., Retail Store 415 Main Street. See Advt.

SLIPPERS.

Shoes and Slippers, Barefoot Sandals. Felt footwear a specialty. WORCESTER SLIPPER CO., J. P. Grosvenor, Prop., 370 Park Avenue.

STAMPINGS.

Worcester Pressed Steel Co., 100 Beacon Street. Light and heavy Stampings in all metals.

STEAM AND GAS FITTERS.

Braman, Dow & Co., Contractors for Heating Apparatus, Steam, Water or Vapor. Mill Piping a specialty. 7 Washington Square.

STEAM AND GAS SUPPLIES.

Leading Makes of steam and hot water heaters. CENTRAL SUPPLY CO., 35 Waldo Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

STEAMSHIP LINES.

Steamship Lines UNITED FRUIT CO.'S trips to Jamaica. See Adv.

SUIT CASES AND BAGS.

Largest and best variety, up-to-date in every respect. WARREN LEATHER GOODS CO.

TACKS AND NAILS.

Shoe Tacks, Hungarian Nails, Hob Nails. P. E. SOMERS, 17 Hermon Street, Worcester, Mass.

TAXIDERMIST.

Chas K. Reed, Naturalists' Supplies. 75 Thomas Street, corner Union, Worcester Mass.

VALENTINES.

Valentines, Holiday Goods, Easter Novelties. THE GEO. C. WHITNEY CO., 67 Union Street, Worcester.

WATER METERS.

The Best Known Meter. UNION WATER METER CO., Hermon Street. See Advt.

WIRE FLY KILLER.

Bigelow Wire Fly Killer. It kills but does not crush the fly. J. F. BIGELOW, 11 Foster Street.

WIRE GOODS.

Wire of all Kinds. SPENCER WIRE CO., Worcester and Spencer. See Advt.

Wire Goods and Wire Novelties. WORCESTER WIRE GOODS CO. See Advt.

Wire, wire cloth and poultry netting. WRIGHT WIRE CO., Worcester and Palmer. See Advt.

WOOL-SPINNING MACHINERY.

Johnson & Bassett, Wool-Spinning Machinery. 114 Foster Street, Worcester, Mass.

BANKS.

WORCESTER NATIONAL BANK, 9 Foster Street. Incorporated as a State Bank in 1804; as a National Bank in 1864. Capital $250,000; surplus and undivided profits $321,508.72. Dividends April and October; rate past year, 8 per cent. President, James P. Hamilton; Cashier, Samuel D. Spurr; Assistant Cashier, F. M. Hedden; Directors, A. George Bullock, Charles A. Chase, James P. Hamilton, Lincoln N. Kinnicutt, Edward L. Davis, George F. Brooks, Paul B. Morgan, Reginald Washburn, Matthew J. Whittall.

WORCESTER TRUST COMPANY, 344 Main Street. Incorporated in 1868. Capital $500,000; surplus $500,000. Dividends January, April, July, and October; rate past year, 6 per cent. William D. Luey, President; Henry A. Marsh, Nathaniel Paine, Henry P. Murray, Vice Presidents; Samuel H. Clary, Treasurer; Alvin J. Daniels, Secretary; Chairman of Board of Directors, Henry A. Marsh; Directors, Charles S. Barton, Geo. F. Blake, A. George Bullock, John H. Coes, Alexander DeWitt, Thomas B. Eaton, William Endicott, Jr., Henry F. Harris, Rockwood Hoar, C. Henry Hutchins, Lincoln N. Kinnicutt, Edwin T. Marble, J. Russel Marble, Neal Rantoul, Wm. H. Sawyer, Frank Bulkeley Smith, E. D. Thayer, Chas. M. Thayer, Robert M. Washburn, George W. Wells, M. J. Whittall, G. Marston Whitin, Charles A. Williams, Robert Winsor.

PEOPLE'S SAVINGS BANK, 452 Main Street. Incorporated in 1864. Deposits $11,185,000; guaranty fund $520,000. Interest payable February and August 2d. Deposits go on interest February, May, August and November 1; rate past year, 3¾ per cent. President, Samuel R. Heywood; Treasurer, Charles M. Bent; Assistant Treasurer, Frederick W. White; Investment Committee, Samuel R. Heywood, William W. Johnson, Edwin T. Marble, Henry M. Harris, Charles M. Thayer.

THE WORCESTER MECHANICS SAVINGS BANK, Worcester, Mass. Organized, 1851. Officers: President, A. B. R. Sprague; Vice Presidents, John H. Coes, Thomas B. Eaton, Eli J. Whittemore; Treasurer, Frank W. Cutting; Trustees, A. B. R. Sprague, Thomas B. Eaton, Thomas G. Kent, Eli J. Whittemore, John H. Coes, Francis H. Dewey, Chas. A. Hill, Chas. F. Hanson, Geo. E. Merrill, Levis G. White, Francis W. Blacker, Henry S. Pratt, Arthur P. Rugg, Chas. D. Lamson.

WORCESTER FIVE CENTS SAVINGS BANK, 314 Main Street. Incorporated, April 1, 1854. Assets, $10,473,732.59; number of depositors, 34,421. Deposits received from five cents to $1000 and placed on interest January, April, July and October. Dividends payable on and after January 15 and July 15. President, Henry M. Witter; Vice Presidents, Simeon N. Story, Gilbert J. Rugg, Edwin Brown, Roger F. Upham, Otis E. Putnam, James Draper; Treasurer, J. Stewart Brown.

WORCESTER COUNTY INSTITUTION FOR SAVINGS, 13 Foster Street. Incorporated, February 5, 1828. Deposits, $19,014,022; assets, $20,414,156; number depositors, 39,955. Deposits put on interest January, April, July and October. Dividends payable January 15 and July 15. President, Chas. A. Chase; Vice Presidents, Edward L. Davis, Geo. E. Francis, Thos. H. Gage; Treasurer, Alfred L. Aiken; Board of Investment, Chas. A. Chase, Sam'l B. Woodward, Geo. E. Francis, Lyman A. Ely, A. George Bullock; Clerk of Corporation, Chas. F. Aldrich.

The Old Family Wine Store

SOLE MANUFACTURERS OF

G. F. H. PRIVATE STOCK WHISKEY

and

Cold Blast Ginger Ale

Write for Price List

GEO. F. HEWETT CO.

Established 1860
Telephone 2455

41, 43, 45 Waldo St., Worcester, Mass.

Boston & Albany RAILROAD
N. Y. C. & H. R. R. R., LESSEE.

NEW YORK CENTRAL LINES

Sleeping Car Service Between Worcester and New York City

Via Boston & Albany R. R., over "Springfield Line."

Sleeper is placed in the Depot at 10.30 p.m., and may be occupied at that time; leaves 12.44 midnight; due New York City at 6.45 a.m.; sleeper will remain in Grand Central Station until 7 o'clock.

Returning Sleeper is placed in Grand Central Station 10 p.m., and may be occupied at that time; leaves at 11.03 p.m. Will be sidetracked at Worcester so that passengers may remain in car until 7 a.m. if desired.

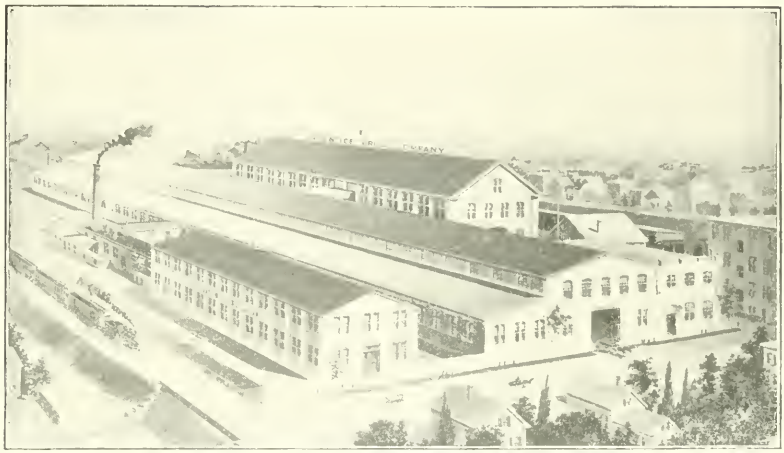
10 TRAINS A DAY leave Worcester via New York Central Lines, as follows: 6.24, 9.40, 11.23, 11.55 a.m.; 1.04, 3.09, 4.39, 7.10, 9.09 p.m.; 1.17 a.m.

For reservations call on W. U. Bixby, Ticket Agent, Union Station.
S. S. Van Etten, City Ticket and Passenger Agent, 385 Main Street, Worcester.
A. S. HANSON, General Passenger Agent, Boston.

In writing to advertisers, please mention the Worcester Magazine.

PRENTICE BROS. COMPANY,

WORCESTER, MASS.



BUILDERS OF

DRILLING MACHINES AND ENGINE LATHES.

COATES CLIPPERS

Coates Hair Clippers and flexible transmission.

COATES CLIPPER MFG. CO., WORCESTER, MASS.

MATTHEWS MANUFACTURING COMPANY,

MANUFACTURERS OF

STOVE TRIMMINGS,
BALL BEARINGS,

Steam-Pipe Collars,
Ferrules and
Sheet Metal Specialties.

104 Gold Street, Worcester, Mass.
A. T. MATTHEWS, Treasurer.

OUR NEW EQUIPMENT

Of Type and Fast Machines for HIGH GRADE PRINTING has been pronounced by experts to be one of the best in New England. We can please you in quality and price.

Commonwealth Press

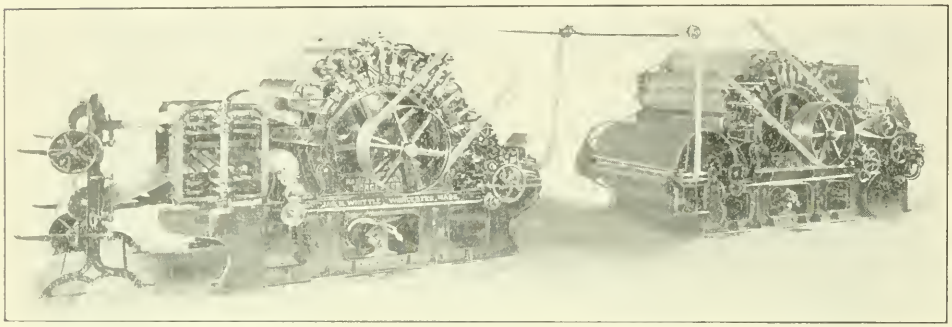
O. B. WOOD
50 Foster Street, Worcester

The Twentieth Century Henderson Double Carding Process

Manufactured by JAMES H. WHITTLE

From Union Depot take Fitchburg cars that run on the hour and half hour, or get transfer at City Hall for Barber's Crossing or Brittan Square Cars, that run every 7½ minutes.

150 Harlow St., Worcester, Mass.



This cut represents the latest and most improved Carding Machine for carding woolens, worsteds, etc. By this process a Two-card Set will give more even work, better mixing, better carding, and as much carding as any Three-card Set now manufactured. This can be furnished in Three-card sets if required. By using this carding device about one-third of the space is saved, one third of the power, and the Cards are sold for less money than a Three-card Set With a Two-card Set, on the Breaker we get 8 Workers and on the Finisher 6 Workers, which makes 14 Workers against 17 in the regular way.

The Workers on these Cards run in pairs. The first Worker does no carding, as it runs point to point with the clothing on the main cylinder. This simply holds the stock while the main cylinder draws the staple out to its fullest length. It is then passed to the second Worker, which cards it, and what does not pass by this Worker is carried back by the Upper Stripper to the first Worker of the pair and recombed, and then returns to the second Worker, following through this process until it is thoroughly carded. The next set of workers is set slightly closer, and goes through the same operation.

In one set of these Cards there are 42 Carding Points against 17 Carding Points in a Three-card Set, giving far superior Carding to any Three-card Set now running.

We make these Cards the following sizes;

48″ and 60″ x 48″, either wood or iron Cylinders, which carries 14 Workers and 14 Strippers; 48″ and 60″ x 60″, which carries 18 Workers and 18 Strippers. Where not otherwise specified, we always put on a 30″ Iron Doffer on Breaker and 12″ Ring Doffers on the Finisher.

If you are in the market for Cards it will pay you to look into this.

JAMES H. WHITTLE.

Bay State House.

American and .. .. European Plan

C. W. RIPLEY, Proprietor ∴ WORCESTER, MASS.

H. HODGSON, Pres. and Treas. *FRED HODGSON, Gen. Mgr.*

Queensbury Mills

Worcester, Mass.

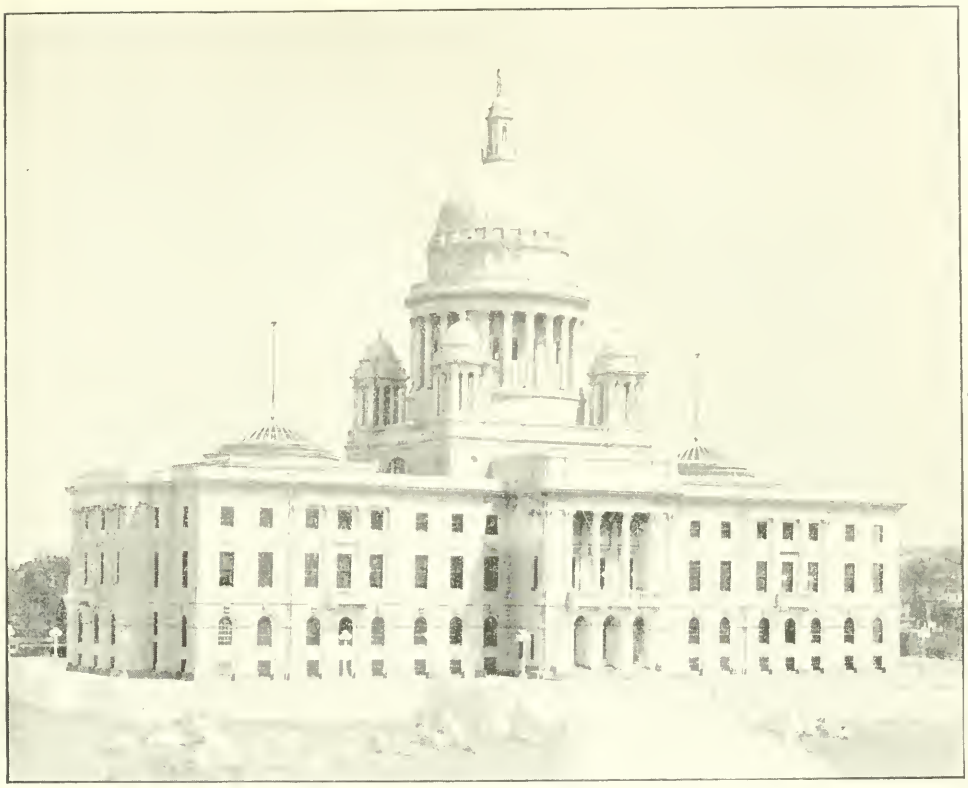
Manufacturers of Mohair and Worsted Yarns.

HAMMOND REED COMPANY

MANUFACTURERS OF

Organ Reeds, Reed Boards and other Organ Supplies

Telegraph and Cable Address, "Reeds" Worcester, Mass., U. S. A. **WORCESTER, MASS.**



RHODE ISLAND STATE HOUSE.
NORCROSS BROTHERS, BUILDERS, WORCESTER, MASS.

THE ONLY GROUND FLOOR PRINTING OFFICE IN THE CITY

TROUBLES ALL OVER

If you put your commissions in our hands your Advertising Troubles will all be over. We are Catalogue and Booklet Builders from start to finish. You can get rid of that worried look if you say the word to

The Blanchard Press WORCESTER MASS.

The Blanchard Press
Six Walnut Street
Worcester, Mass.

LOOMS and REPAIRS

CROMPTON & KNOWLES LOOM WORKS

Worcester Providence Philadelphia

The Smith, Green Company

R. C. CLEVELAND, President and Treasurer

Office, Yards and Warehouses:

32 Bloomingdale Road, Worcester, Mass.

Wholesale and Retail Builders' Supplies

Lime, Cement, Plaster, Flue Lining, Drain Pipe, Fire Brick and Fire Clay, Metal Lath, Corner Bead, Etc.

PROPRIETORS OF

Elastic Pulp Plaster Manufacturing Company

Manufacturers of

ELASTIC PULP PLASTER

The only perfect Wall Plaster in the world

In writing to advertisers, please mention the Worcester Magazine.

The Worcester Magazine

Vol. IX. CONTENTS FOR FEBRUARY, 1906. No. 2

Frontispiece. New Union Station for Washington Square.

Magazine and Municipal Comment.

Hon. Eli Thayer and Oregon, . 25
Meeting for Temperance, . . 26
Tendencies in Public School Administration, ... 26
An Approach for Union Station, . 27
Dead Issue in Worcester, . . 27
For Education of Employees, . . 28
Year of Increase in Building, . . 28
Calls Them Harvard Ideals, . . 29
Block Signals and Common Sense, 29
The Billboard Agitation, . . 29
How to Get Business, . . . 30
Anti-Noise Law Good Idea, . . 30
Merchants' First Banquet, . . 30

Eli Thayer and the Admission of Oregon. By Franklin P. Rice, . 31

Power Possibilities of the Future. By Prof. Elihu Thomson, . . 36

Tendencies in Public School Administration. By Prof. U. W. Cutler, 41

Board of Trade Notes . . . 43

Published monthly by the Worcester Board of Trade, 11 Foster Street, Worcester, Mass. Committee on Publication, Rufus B. Fowler, G. Stanley Hall, Irving E. Comins, Milton P. Higgins, George W. Mackintire. Terms $1.00 a year; single copies, 10 cents. For sale by newsdealers. Entered at the Post Office, Worcester, Mass., as second-class matter, May 10, 1901.

Spencer Wire Company

91 Webster Street, Worcester, Mass.

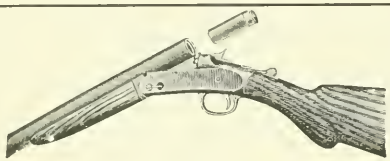
ALL KINDS OF

Wire and Wire Specialties

Send for our new 50-page
Catalogue

That Office Help Is a source of continual anxiety to the business man unless he has the best. Poor help costs more than good help does. **Becker's Business College** has turned out the best class of help employed in Worcester. When in need of such help send to Becker's—the school giving the strongest business training in New England.

Telephone 378-3 **E. C. A. BECKER, Prop.**



Established 1871. Incorporated 1888.

HARRINGTON & RICHARDSON ARMS CO.,

MANUFACTURERS OF

FIREARMS,

Descriptive Catalogue on request. **Worcester, Mass., U. S. A.**

J. W. ARMOUR

Pattern Making for all kinds of Machinery. Variety Wood Turning

EQUIPMENT AND
EXPERIENCE
EXCELLENT

164 Union St., Worcester, Mass.

Telephone Connection.

Logan, Swift & Brigham Envelope Co. Division

U.S. ENVELOPE CO. USE SPRINGFIELD, MASS.

WORCESTER, MASS.

Manufacturers of all kinds of

Standard Envelopes and Envelope Specialties

Sole Manufacturers of

The Improved Columbian Clasp Envelope

The best and most satisfying Merchandise Envelope made.

The Outlook Envelope

That insures economy and absolute accuracy in the addressing of all your mail matter.

Specialists in STEEL DIE STAMPING for Commercial Work. Samples and Prices of our Standard Goods furnished by your Stationer or Printer.

TYLER'S BUSINESS COLLEGE

Stenography, Bookkeeping, Commercial Law and Typewriting

Public Court Reporting and Typewriting. Stenographers and Bookkeepers furnished.

734 State Mutual Building, Worcester, Mass.

Established 1854

Hudson Belting Co.

Manufacturers of

Stretched Oak Tanned

LEATHER BELTING

Round, Twisted and Solid Belting, Strapping, Lacing, Rubber Belting. Special Belts for Dynamos. Hudson's Extra English Black. Also Wood Pulleys.

OFFICE AND FACTORY:

Eaton Place, WORCESTER, MASS.

"On Time" our watchword

Machine Jobbing, Special Machinery, Patents perfected and

Automobiles

repaired and stored

DAWSON MACHINE CO.

Telephone 2 Sargent Street

"Everything in Wire"

We manufacture from steel and brass wire a salable line of Hardware and Kitchen Goods Specialties, Belt Hooks; Universal, Jack and Plumbers' Chains; Coat and Hat Hooks; Garment Hangers; Blind Fixtures; Kitchen Wire Goods; Wire Nails, Tacks and Staples. Our line on sale at all Hardware and Department Stores. Special Goods made to order from wire.

***The* Wire Goods Company**

WORCESTER, MASSACHUSETTS

THE MERITS
OF NORTON PRODUCTS
RECOGNIZED!

TWO GRAND PRIZES
TWO GOLD MEDALS

AWARDED AT
LOUISIANA PURCHASE EXPOSITION

NORTON EMERY WHEEL COMPANY
NORTON GRINDING COMPANY

WORCESTER, MASS.

Plunger Elevator Co.,

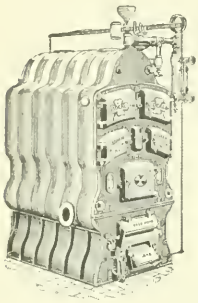
Safe, Long-Lived, Economical, High-Speed Passenger Elevators a Specialty. . . . . .

Hydraulic Plunger

ELEVATORS.

OFFICE AND FACTORY,

BARBER'S, WORCESTER, MASS



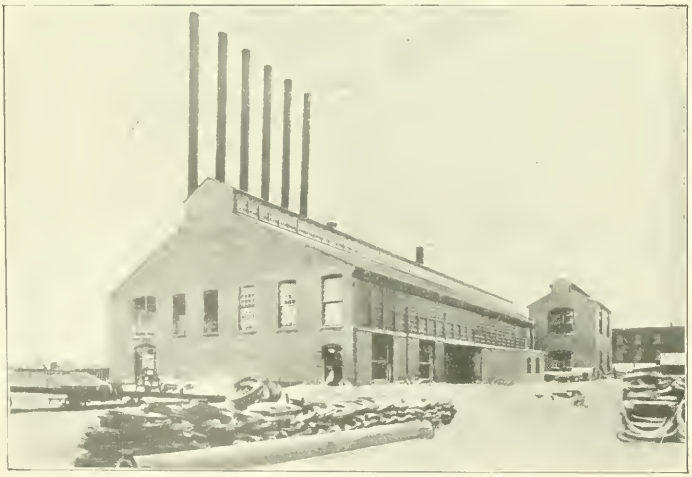
IDEAL BOILERS

Guarantee

Liberal Warmth, Economy of Fuel

Many people say so from experience.
Made in large variety of sizes to suit any requirement.

THE SINCLAIR CO., 28 Pearl Street, Worcester



Continuous Rolling Mills

Continuous Heating Furnaces

Continuous Gas Producers

Wire Mill Machinery

MORGAN CONSTRUCTION COMPANY

WORCESTER, MASS.

New York Office:
40 EXCHANGE PLACE

European Office:
52 RUE DE CONCRES, BRUSSELS

PHOTOGRAPHING & RETOUCHING · MACHINERY

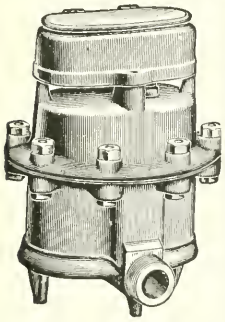
Half Tones

WOODBURY-CARLTON CO

made at No. 4 Walnut St.

DESIGNS BIRDS' EYE VIEWS ART PRINT

UNION WATER METER CO.,



BENJAMIN F. OTIS, Pres. and Manager.
EDW. P. KING, Treas. and Supt.

Water Meters.

WORCESTER, MASS.

WORCESTER MACHINE SCREW CO.,

STANDARD SCREW CO. SUCCESSORS.

MANUFACTURERS OF

SET, CAP AND MACHINE

SCREWS

IN IRON, STEEL AND BRASS.

STUDS FOR STEAM ENGINES, PUMPS, ETC.

WORCESTER, MASS.

HATCH & BARNES CO.,

MANUFACTURERS OF

Doors, Sash, Blinds

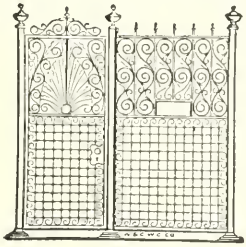
AND FINE BUILDERS' FINISH.

Practical Stair Builders. Newels, Balusters and Rails constantly on hand and made to order. Wood Turning a specialty.

Office, 196 Union Street, WORCESTER, MASS.

WRIGHT WIRE CO.

WIRE AND WIRE CLOTH



WIRE GUARD WORK.

Elevator Cabs and Enclosures

Coal Screens and Riddles.

POULTRY NETTING.

WORCESTER, MASS. PALMER, MASS

Duncan & Goodell Co.,

WHOLESALERS AND RETAILERS IN

Hardware and Cutlery.

We have the finest line of Table and Pocket Cutlery, also highest grade of Scissors, including all kinds from Finest Manicure Scissors to Tailors' Shears, to be seen in Worcester.

We make a specialty of Builders' Hardware and Supplies, and carry in stock a large line of best quality door and window trimmings.

404 Main Street, Cor. Pearl.

JAMAICA WHERE SUMMER IS 12 MONTHS LONG

Nowhere can winter be spent so delightfully

THE UNITED FRUIT COMPANY'S
Steel Twin-Screw U. S. Mail Steamships

Sailings Weekly from Boston, Philadelphia and Baltimore

Round Trip Fare $45 including meals and berth in stateroom Single Fare, $25

Write for Jamaica Literature describing and illustrating the Island and tours of interest. Address General Passenger Agent

UNITED FRUIT COMPANY

Long Wharf, Boston.

UNITED FRUIT COMPANY

Or call on either of the following Worcester Agents:

J. F. HEALY, 396 Main St. O. F. RAWSON, 391 Main St.
S. S. VAN ETTEN, 385 Main Street.

WORCESTER BUSINESS DIRECTORY.

MANUFACTURERS AND DEALERS.

AGRICULTURAL IMPLEMENTS.

Worcester Kemp Manure Spreader, Buckeye Mower, Bullard Hay Tedder, Worcester Rake. RICHARDSON MANUFACTURING CO., 84 Prescott St., Worcester.

ARCHITECTS.

George H. Clemence, Architect, Walker Building, Room 205, 405 Main Street, Worcester, Mass.

Stephen C. Earle, Architect, Room 45, Burnside Building, 339 Main Street, Worcester, Mass.

Fuller & Delano Company, Architects, 452 Main St. Worcester, Mass. Ward P. Delano, Robt. L. Fuller

Clellan Waldo Fisher, Architect. Office, 718 State Mutual Building, Worcester.

Frost, Briggs & Chamberlain, Architects, Offices 518 Main Street, Knowles Building, Worcester, Mass.

Edward Topanelian, Architect, Room 705, State Mutual Building, 340 Main Street, Worcester.

ASH SIFTERS.

"Hustler" Ash Sifter. HILL DRYER CO., 340-350 Park Avenue, Worcester, Mass.

BALL BEARINGS.

Worcester Pressed Steel Co., 100 Beacon Street. Automobile and Bicycle Parts. Metal Stampings.

BANKS.

People's Savings Bank, 452 Main Street. See Advt.

Worcester County Institution for Savings, 13 Foster St. See Advt.

Worcester Five Cents Savings Bank, 314 Main St. See Advt.

Worcester Mechanics Savings Bank, 311 Main St. See Advt.

Worcester National Bank, 9 Foster Street, See Advt.

Worcester Trust Co., 448 Main Street. See Advt.

BELTING.

Oak tanned leather belting always in stock. GRATON & KNIGHT MFG. CO., Bloomingdale Road. See Advt.

Pure Oak Bark Tanned Leather Belting. Special Waterproof Belting, "B. & F." Belting, Dynamo Belts and other specials. Mill Supplies. J. F. & W. H. WARREN CO., 44 Vine Street, Worcester, Mass.

BLACKSMITHS.

Common Sense Shoeing Forge. JOHN J. GRADY, 162 Mechanic Street. Tel. 1028-6.

BOILERS.

The Sinclair Co. Ideal boilers. 28 Pearl St. See Advt.

BOLTS AND NUTS.

Bolts, cold punched nuts and washers, die making and metal punching. THOMAS SMITH CO., Frank W. Foye, 14 Cypress Street.

BOOK BINDERY.

Book Binders and Paper Rulers. J. S. WESBY & SONS, 387 Main Street and 50 Foster Street.

BOWLING SUPPLIES.

Balls, pins, and improved foot chalks. M. A. BARTLETT, 29 Cypress Street.

BUILDERS' FINISH.

Doors, sash, blinds, and fine builders' finish. HATCH & BARNES CO., 196 Union Street. See Advt.

BUILDERS' SUPPLIES.

Builders' Supplies. SMITH, GREEN CO., 32 Bloomingdale Road. See Advt.

BUSINESS COLLEGES.

Bookkeepers, stenographers and typewriters. BECKER'S BUSINESS COLLEGE, 492 Main St. See Advt.

Tyler's Business College. Public and Court Reporting, 734 State Mutual Building. See Advt.

Business Men when in need of carefully trained Bookkeepers and Stenographers apply to C. B. POST, WORCESTER BUSINESS INSTITUTE, 476 Main Street.

CALENDARS.

Advertising Calendars, Blotters, Circulars, Booklets, Mailing Cards, Etc. PROGRESS PUB. CO., 377 Main St.

CARDING MACHINERY.

Twentieth Century Henderson Double Carding Process. J. H. WHITTLE, 150 Harlow Street. See Advt.

CHAINS.

Jack Chains, Ladder Chains, all kinds of Metal. HALE BROTHERS COMPANY, 42 Lagrange Street.

CIVIL ENGINEERS.

Plans, water supply and sewerage. H. H. BROWNING, civil engineer, 405 Main Street.

CLOTHES DRYERS.

For Lawn, Balcony or Roof. HILL DRYER CO., 340 to 350 Park Avenue, Worcester, Mass.

CONTRACTORS AND BUILDERS.

Builders of public, commercial and manufacturing buildings and private residences. J. W. BISHOP CO., 107-109 Foster Street. Worcester, Boston, Providence, R. I.

E. J. Cross, General Contractor. Estimates furnished on any class of buildings. Office, 82 Foster Street, Worcester.

Public and mercantile buildings a specialty. THE NORCROSS BROS. CO. See Advt.

General Contractors for all classes of buildings. SCOVILLE & WHEELER, 518 Main Street, Worcester.

CUT GLASS WORKS.

Rich Cut Glass. Factory and Salesroom, 17 Hermon Street. WILLIAM TAIT, Proprietor.

DECORATORS AND PAINTERS.

Artistic frescoing and decorating of churches, halls and residences, sign and house painting. SANDGREN & EHNBORG, 274 Main Street. Tel. 983-4.

ELECTRICAL ENGINEERS AND CONTRACTORS.

Electrical Contractors and Dealers in Supplies. We install Dynamos and Motors, Telephones, Lighting, Etc. PAGE ELECTRIC CO., 24 Pearl Street.

Electrical Supplies, construction Automatic Telephone Systems. PLUMMER, HAM & RICHARDSON, 619 Main Street.

ELECTRIC LIGHT AND POWER.

Electric Light and Power supplied by WORCESTER ELECTRIC LIGHT COMPANY, 66 Faraday Street, Worcester, Mass.

ELEVATORS.

Hydraulic plunger elevators. PLUNGER ELEVATOR CO., Barber's. See Advt.

EMERY WHEELS.

Grinding Wheels, grinding machinery and India oil stones. NORTON EMERY WHEEL CO. See Advt.

ENGRAVING.

Half-Tone Work done artistically. WOODBURY-CARLTON CO., 4 Walnut Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

ENGINE LATHES.

Drilling Machines and engine lathes. PRENTICE BROTHERS, Cambridge Street. See Advt.

ENGINEERS.

Mill Buildings, Steel, Concrete Construction; Power Installations. THOMPSON & GALLAGHER, 339 Main St.

ENVELOPE MANUFACTURERS.

Envelopes and Envelope Specialties. LOGAN, SWIFT & BRIGHAM DIVISION. See Adv.

All Kinds and sizes of Envelopes, also Paper Boxes. SHERMAN ENVELOPE CO., Office and Factory, 75 School Street, Worcester.

FIREARMS.

Guns and pistols of all kinds. HARRINGTON & RICHARDSON ARMS CO., Park Avenue. See Advt.

FOUNDRIES.

Light and heavy Iron Castings. JACKSON STREET FOUNDRY, J. A. Colvin, Prop., 52 Jackson Street.

GAS ENGINES.

Greendale Gas Engine Co., manufacturers of Gas and Gasoline Engines. S. F. BURLINGAME, Manager. Shop 'Phone 1063-2.

HARDWARE.

Wholesale and retail dealers in hardware and cutlery. DUNCAN & GOODELL CO., 404 Main Street. See Advt.

HEATING CONTRACTORS.

Ideal Boilers, steam and water. THE SINCLAIR CO., 28 Pearl Street. See Advt.

Acetylene Lighting—Plants installed. THE SINCLAIR CO., 28 Pearl Street. See Advt.

HOTEL.

Bay State House, European plan. C. W. RIPLEY, proprietor. See Advt.

IRON AND STEEL.

Supplies for blacksmiths, carriage-makers. GEO. F. BLAKE, JR., & CO. Office and storehouse Mechanic and Foster Streets. Tel. 2508-2509.

IRON FOUNDERS.

High Grade Machinery Castings. STANDARD FOUNDRY CO., Tainter Street. See Advt.

INSURANCE.

General insurance agency. CHARLES E. GRANT, Rooms 711 and 712 State Mutual Building.

Life Policies. STATE MUTUAL LIFE ASSURANCE CO. See Advt.

LEATHER AND CANVAS GOODS.

Suit Cases and Bags, Toilet Cases, Music Goods, Etc. WARREN LEATHER GOODS CO., 80 Austin Street.

LEATHER BELTING.

Hudson's extra oak-tanned Leather Belting always in stock. HUDSON BELTING CO., Eaton Place. See Advt.

LOOMS AND REPAIRS.

Looms and Repairs. CROMPTON & KNOWLES LOOM WORKS. See Advt.

LUMBER.

W. H. Sawyer Lumber Co. Hard Pine Timber a specialty. All kinds Finish constantly in kiln.

Stone & Foster Lumber Co., Central and Union Sts. General line of lumber, wholesale or retail.

MACHINE JOBBING.

Machine Jobbing, Special Machinery, Patents perfected. DAWSON MACHINE CO., 2 Sargent Street. See Advt.

MACHINE SCREWS.

Machine Screws in iron, steel and brass. WORCESTER MACHINE SCREW CO., Beacon Street. See Advt.

MACHINISTS' TOOLS.

Planers a specialty, Machine Tools, Lathes and Drills. J. S. WHEELER & CO., 23 Hermon Street.

Lathes, Punches and Shears. W. C. YOUNG, 17 Hermon Street.

METAL SPECIALTIES.

Stove Trimmings, steampipe collars and ferrules. MATTHEWS MFG. CO., 104 Gold Street. See Advt.

MILL SUPPLIES.

Crawford & Co., 665 Main Street. Everything in Mill Supplies, Wool Stock, Cotton and Cotton Waste.

MOHAIR YARNS.

Manufacturers of Mohair and Worsted Yarns. QUEENSBURY MILLS, Worcester, Mass. See Advt.

OVERALLS.

Overalls, Shirts, Frocks, Etc. A. G. HILDRETH, 25 Hermon Street, Worcester, Mass.

PAINTS AND OILS.

Painters' Supplies and Lubricating Oils. F. M. HEATH & CO., 40 Southbridge St., opp. Post Office.

PATENT CURTAIN RODS.

Adjustable Curtain Rods and Sockets. FOWLER & CO., 65 Beacon Street, Worcester, Mass.

PATTERN-MAKERS.

Pattern-making for all kinds of machinery, variety wood turning. J. W. ARMOUR, 164 Union Street. See Advt.

PRINTING.

Good Printing quickly executed. F. S. BLANCHARD & CO., 6 Walnut Street. See Advt.

Printing and Engraving, HURLEY'S PRINTERY, 38 and 44 Front Street.

Posters, Show Cards, Theatrical and Commercial Printing. C. R. STOBBS, 16 Mechanic Street.

Commercial Printing and Blank-book Work. O. B. WOOD, 50 Foster Street. See Advt.

RAILROADS.

Boston & Albany division of N. Y. C. & H. R. R. R. See Advt.

RAZORS.

Manufacturers of all styles, including Safety Razors. J. R. TORREY RAZOR CO., Chandler Street.

REEDS.

Organ Reeds and Reed Boards. HAMMOND REED CO., Worcester, Mass. See Advt.

RAZOR STROPS.

Manufacturers of all styles of Strops, also Stropping Machine. J. R. TORREY & CO., Chandler Street.

ROLLING MILLS.

Continuous Rolling Mills, Gas Producers and Wire Mill Machinery. MORGAN CONSTRUCTION CO. See Adv.

ROOMS WITH POWER.

Rooms with power in business district. ESTATE OF WM. T. MERRIFIELD, 100 Exchange St. See Advt.

SHOE MANUFACTURERS.

Heywood, the Worcester made Shoe. HEYWOOD BOOT & SHOE CO., Retail Store 415 Main Street. See Advt.

SLIPPERS.

Shoes and Slippers, Barefoot Sandals. Felt footwear a specialty. WORCESTER SLIPPER CO., J. P. Grosvenor, Prop., 370 Park Avenue.

STAMPINGS.

Worcester Pressed Steel Co., 100 Beacon Street. Light and heavy Stampings in all metals.

STEAM AND GAS FITTERS.

Braman, Dow & Co., Contractors for Heating Apparatus, Steam, Water or Vapor. Mill Piping a specialty. 7 Washington Square.

STEAM AND GAS SUPPLIES.

Leading Makes of steam and hot water heaters. CENTRAL SUPPLY CO., 35 Waldo Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

STEAMSHIP LINES.

Steamship Lines UNITED FRUIT CO.'S trips to Jamaica. See Adv.

SUIT CASES AND BAGS.

Largest and best variety, up-to-date in every respect. WARREN LEATHER GOODS CO.

TACKS AND NAILS.

Shoe Tacks, Hungarian Nails, Hob Nails. P. E. SOMERS, 17 Hermon Street, Worcester, Mass.

TAXIDERMIST.

Chas K. Reed, Naturalists' Supplies. 75 Thomas Street, corner Union, Worcester Mass.

VALENTINES.

Valentines, Holiday Goods, Easter Novelties. THE GEO. C. WHITNEY CO., 67 Union Street, Worcester.

WATER METERS.

The Best Known Meter. UNION WATER METER CO., Hermon Street. See Advt.

WIRE FLY KILLER.

Bigelow Wire Fly Killer. It kills but does not crush the fly. J. F. BIGELOW, 11 Foster Street.

WIRE GOODS.

Wire of all Kinds. SPENCER WIRE CO., Worcester and Spencer. See Advt.

Wire Goods and Wire Novelties. WORCESTER WIRE GOODS CO. See Advt.

Wire, wire cloth and poultry netting. WRIGHT WIRE CO., Worcester and Palmer. See Advt.

WOOL-SPINNING MACHINERY.

Johnson & Bassett, Wool-Spinning Machinery. 111 Foster Street, Worcester, Mass.

BANKS.

WORCESTER NATIONAL BANK, 9 Foster Street. Incorporated as a State Bank in 1804; as a National Bank in 1864. Capital $250,000; surplus and undivided profits $321,508.72. Dividends April and October; rate past year, 8 per cent. President, James P. Hamilton; Cashier, Samuel D. Spurr; Assistant Cashier, F. M. Hedden; Directors, A. George Bullock, Charles A. Chase, James P. Hamilton, Lincoln N. Kinnicutt, Edward L. Davis, George F. Brooks, Paul B. Morgan, Reginald Washburn, Matthew J. Whittall.

WORCESTER TRUST COMPANY, 344 Main Street. Incorporated in 1868. Capital $500,000; surplus $500,000. Dividends January, April, July, and October; rate past year, 6 per cent. William D. Luey, President; Henry A. Marsh, Nathaniel Paine, Henry P. Murray, Vice Presidents; Samuel H. Clary, Treasurer; Alvin J. Daniels, Secretary; Chairman of Board of Directors, Henry A. Marsh; Directors, Charles S. Barton, Geo. F. Blake, A. George Bullock, John H. Coes, Alexander DeWitt, Thomas B. Eaton, William Endicott, Jr., Henry F. Harris, Rockwood Hoar, C. Henry Hutchins, Lincoln N. Kinnicutt, Edwin T. Marble, J. Russel Marble, Neal Rantoul, Wm. H. Sawyer, Frank Bulkeley Smith, E. D. Thayer, Chas. M. Thayer, Robert M. Washburn, George W. Wells, M. J. Whittall, G. Marston Whitin, Charles A. Williams, Robert Winsor.

PEOPLE'S SAVINGS BANK, 452 Main Street. Incorporated in 1864. Deposits $11,185,000; guaranty fund $520,000. Interest payable February and August 2d. Deposits go on interest February, May, August and November 1; rate past year, 3¾ per cent. President, Samuel R. Heywood; Treasurer, Charles M. Bent; Assistant Treasurer, Frederick W. White; Investment Committee, Samuel R. Heywood, William W. Johnson, Edwin T. Marble, Henry M. Harris, Charles M. Thayer.

THE WORCESTER MECHANICS SAVINGS BANK, Worcester, Mass. Organized, 1851. Officers: President, A. B. R. Sprague; Vice Presidents, John H. Coes, Thomas B. Eaton, Eli J. Whittemore; Treasurer, Frank W. Cutting; Trustees, A. B. R. Sprague, Thomas B. Eaton, Thomas G. Kent, Eli J. Whittemore, John H. Coes, Francis H. Dewey, Chas. A. Hill, Chas. F. Hanson, Geo. E. Merrill, Levis G. White, Francis W. Blacker, Henry S. Pratt, Arthur P. Rugg, Chas. D. Lamson.

WORCESTER FIVE CENTS SAVINGS BANK, 314 Main Street. Incorporated, April 1, 1854. Assets, $10,473,732.59; number of depositors, 34,421. Deposits received from five cents to $1000 and placed on interest January, April, July and October. Dividends payable on and after January 15 and July 15. President, Henry M. Witter; Vice Presidents, Simeon N. Story, Gilbert J. Rugg, Edwin Brown, Roger F. Upham, Otis E. Putnam, James Draper; Treasurer, J. Stewart Brown.

WORCESTER COUNTY INSTITUTION FOR SAVINGS, 13 Foster Street. Incorporated, February 5, 1828. Deposits, $19,014,022; assets, $20,414,156; number depositors, 39,955. Deposits put on interest January, April, July and October. Dividends payable January 15 and July 15. President, Chas. A. Chase; Vice Presidents, Edward L. Davis, Geo. E. Francis, Thos. H. Gage; Treasurer, Alfred L. Aiken; Board of Investment, Chas. A. Chase, Sam'l B. Woodward, Geo. E. Francis, Lyman A. Ely, A. George Bullock; Clerk of Corporation, Chas. F. Aldrich.

The Old Family Wine Store

SOLE MANUFACTURERS OF

G.F.H. PRIVATE STOCK WHISKEY

and

Cold Blast Ginger Ale

Write for Price List

GEO. F. HEWETT CO.

Established 1860
Telephone 2455

41, 43, 45 Waldo St., Worcester, Mass.

Boston & Albany RAILROAD
N. Y. C. & H. R. R. R., LESSEE.

NEW YORK CENTRAL LINES

Sleeping Car Service Between Worcester and New York City

Via Boston & Albany R. R., over "Springfield Line."

Sleeper is placed in the Depot at 10.30 p.m., and may be occupied at that time; leaves 12.44 midnight; due New York City at 6.45 a.m.; sleeper will remain in Grand Central Station until 7 o'clock.

Returning Sleeper is placed in Grand Central Station 10 p.m., and may be occupied at that time; leaves at 11.03 p.m. Will be sidetracked at Worcester so that passengers may remain in car until 7 a.m. if desired.

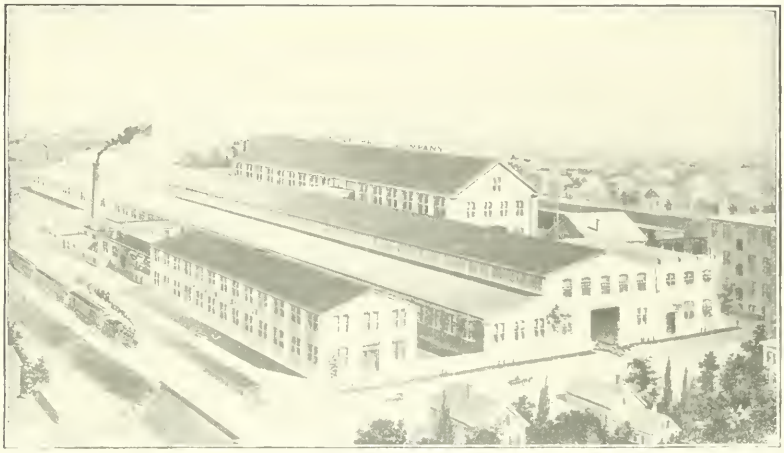
10 TRAINS A DAY leave Worcester via New York Central Lines, as follows: 6.24, 9.40, 11.23, 11.55 a.m.; 1.04, 3.09, 4.39, 7.10, 9.09 p.m.; 1.17 a.m.

For reservations call on W. U. Bixby, Ticket Agent, Union Station.
S. S. Van Etten, City Ticket and Passenger Agent, 385 Main Street, Worcester.
A. S. HANSON, General Passenger Agent, Boston.

In writing to advertisers, please mention the Worcester Magazine.

PRENTICE BROS. COMPANY,

WORCESTER, MASS.



BUILDERS OF

DRILLING MACHINES AND ENGINE LATHES.

COATES CLIPPERS

Coates Hair Clippers and flexible transmission.

COATES CLIPPER MFG. CO., WORCESTER, MASS.

MATTHEWS MANUFACTURING COMPANY.

MANUFACTURERS OF

STOVE TRIMMINGS,
BALL BEARINGS,

Steam-Pipe Collars,
Ferrules and
Sheet Metal Specialties.

104 Gold Street, Worcester, Mass.
A. T. MATTHEWS, Treasurer.

OUR NEW EQUIPMENT

Of Type and Fast Machines for HIGH GRADE PRINTING has been pronounced by experts to be one of the best in New England. We can please you in quality and price.

Commonwealth Press

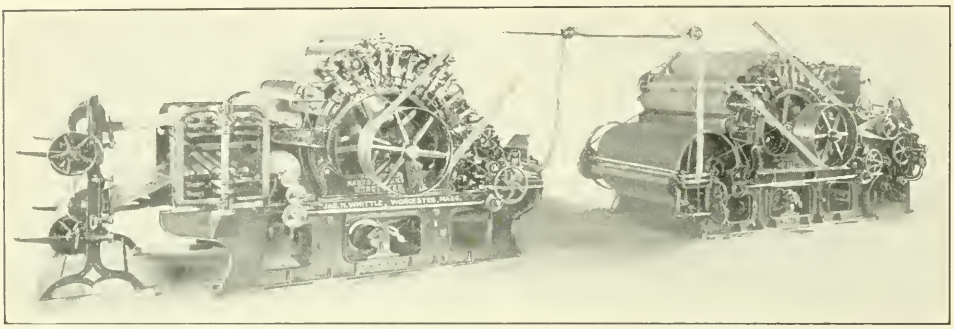
O. B. WOOD
50 Foster Street, Worcester

The Twentieth Century Henderson Double Carding Process

Manufactured by JAMES H. WHITTLE

From Union Depot take Fitchburg cars that run on the hour and half hour, or get transfer at City Hall for Barber's Crossing or Brittan Square Cars, that run every 7½ minutes.

150 Harlow St., Worcester, Mass.



This cut represents the latest and most improved Carding Machine for carding woolens, worsteds, etc. By this process a Two-card Set will give more even work, better mixing, better carding, and as much carding as any Three-card Set now manufactured. This can be furnished in Three-card sets if required. By using this carding device about one-third of the space is saved, one third of the power, and the Cards are sold for less money than a Three-card Set With a Two-card Set, on the Breaker we get 8 Workers and on the Finisher 6 Workers, which makes 14 Workers against 17 in the regular way.

The Workers on these Cards run in pairs. The first Worker does no carding, as it runs point to point with the clothing on the main cylinder. This simply holds the stock while the main cylinder draws the staple out to its fullest length. It is then passed to the second Worker, which cards it, and what does not pass by this Worker is carried back by the Upper Stripper to the first Worker of the pair and recombed, and then returns to the second Worker, following through this process until it is thoroughly carded. The next set of workers is set slightly closer, and goes through the same operation.

In one set of these Cards there are 42 Carding Points against 17 Carding Points in a Three-card Set, giving far superior Carding to any Three-card Set now running.

We make these Cards the following sizes:

48″ and 60″ x 48″, either wood or iron Cylinders, which carries 14 Workers and 14 Strippers; 48″ and 60″ x 60″, which carries 18 Workers and 18 Strippers. Where not otherwise specified, we always put on a 30″ Iron Doffer on Breaker and 12″ Ring Doffers on the Finisher.

If you are in the market for Cards it will pay you to look into this.

JAMES H. WHITTLE.

Bay State House.

American and .. European Plan

C. W. RIPLEY, Proprietor .·. WORCESTER, MASS.

H. HODGSON, Pres. and Treas. *FRED HODGSON, Gen. Mgr.*

Queensbury Mills

Worcester, Mass.

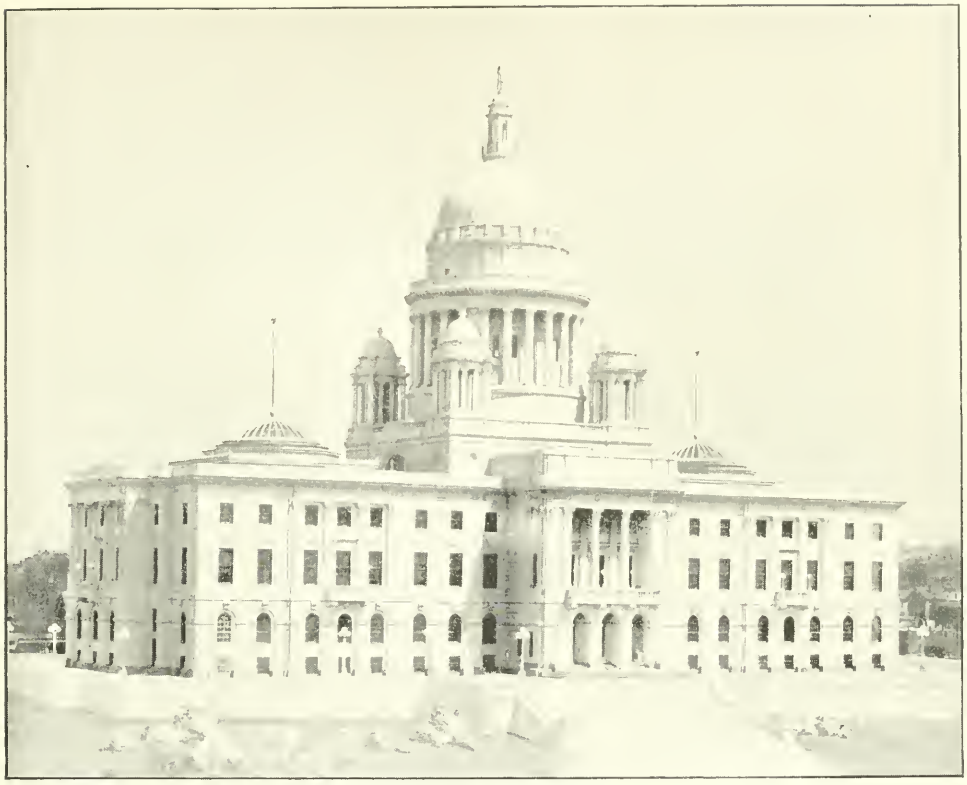
Manufacturers of Mohair and Worsted Yarns.

HAMMOND REED COMPANY

MANUFACTURERS OF

Organ Reeds, Reed Boards and other Organ Supplies

Telegraph and Cable Address, "Reeds," Worcester, Mass., U. S. A. **WORCESTER, MASS.**



RHODE ISLAND STATE HOUSE.
NORCROSS BROTHERS, BUILDERS, WORCESTER, MASS.

THE ONLY GROUND FLOOR PRINTING OFFICE IN THE CITY

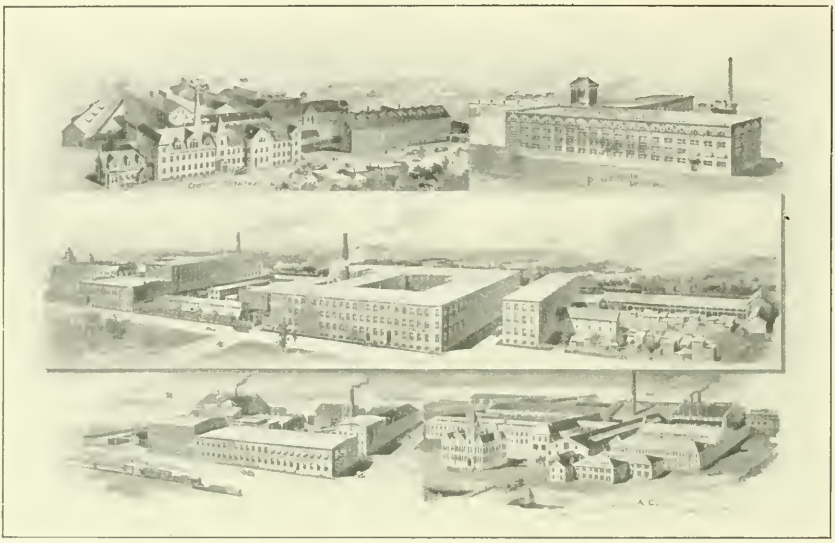
TROUBLES ALL OVER

If you put your commissions in our hands your Advertising Troubles will all be over. We are Catalogue and Booklet Builders from start to finish. You can get rid of that worried look if you say the word to

The Blanchard Press
WORCESTER MASS.

The Blanchard Press
Six Walnut Street
Worcester, Mass.

LOOMS and REPAIRS



CROMPTON & KNOWLES LOOM WORKS

Worcester Providence Philadelphia

The Smith, Green Company

R. C. CLEVELAND, President and Treasurer

Office, Yards and Warehouses: 32 Bloomingdale Road, Worcester, Mass.

Wholesale and Retail Builders' Supplies

PROPRIETORS OF

Elastic Pulp Plaster Manufacturing Company

Manufacturers of

ELASTIC PULP PLASTER

The only perfect Wall Plaster in the world

For Statistics of Worcester and List of Things Made

Write to the SECRETARY BOARD OF TRADE

In writing to advertisers, please mention the Worcester Magazine.

The Worcester Magazine

Vol. IX. CONTENTS FOR MARCH, 1906. No. 3

Frontispiece. New Home of Worcester County Institution for Savings.

Magazine and Municipal Comment.

How Property is Assessed, - - 47
Power for Commerce Committee, - 48
Boston's Financial Debt, - - 48
Competing Line to Boston, - - 49
Want Free Alcohol, - - - 49
Does Not Deserve Scolding, - - 50
Littlefield Pleads for Worcester, - 51
Respect for the Boys' Laws, - - 52
Board of Trade New Booklet, - 52
Worcester's Savings Bank's New Home, - - - - - - 52

Assessments and Taxation. By George B. Hurlburt, - - - - - - 53

Eli Thayer and the Admission of Oregon. Second paper. By Franklin P. Rice, - - - - - - 57

Banners of the World—Our Flag. By Rev. J. M. Van Horn, - - 64

Published monthly by the Worcester Board of Trade, 11 Foster Street, Worcester, Mass. Committee on Publication, Rufus B. Fowler, G. Stanley Hall, Irving E. Comins, Milton P. Higgins, George W. Mackintire. Terms $1.00 a year; single copies, 10 cents. For sale by newsdealers. Entered at the Post Office, Worcester, Mass., as second-class matter, May 10, 1901.

Spencer Wire Company

91 Webster Street, Worcester, Mass.

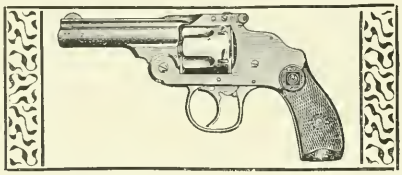
ALL KINDS OF

Wire and Wire Specialties

Send for our new 50-page
Catalogue

That Office Help Is a source of continual anxiety to the business man unless he has the best. Poor help costs more than good help does. **Becker's Business College** has turned out the best class of help employed in Worcester. When in need of such help send to Becker's—the school giving the strongest business training in New England.

Telephone 378-3 **E. C. A. BECKER, Prop.**



Established 1871. Incorporated 1888.

HARRINGTON & RICHARDSON ARMS CO.,

Manufacturers of

FIREARMS.

Descriptive Catalogue on request. WORCESTER, MASS., U. S. A.

U.S. ENVELOPE CO. USE SPRINGFIELD, MASS.

Logan, Swift & Brigham

ENVELOPE CO. DIVISION

Worcester, Massachusetts

MANUFACTURERS OF STANDARD

... Envelopes ...

The Outlook Envelope

Insures economy and absolute accuracy in the addressing of all your mail matter.

The Improved Columbian Clasp Envelope

The best and most satisfactory Merchandise Envelope made.

Specialists in STEEL DIE STAMPING

for Commercial Work. Samples and Prices of our Standard Goods furnished by your Stationer or Printer.

Worcester Has More Than 1100 Manufacturing Plants

Employing 26,000 Wage Earners

Its Annual Pay-roll is $13,000,000

The Value of Products annually produced is upward of $54,000,000

Write the Board of Trade for Particulars

Established 1854

Hudson Belting Co.

Manufacturers of

Stretched Oak Tanned

LEATHER BELTING

Round, Twisted and Solid Belting, Strapping, Lacing, Rubber Belting. Special Belts for Dynamos. Hudson's Extra English Black. Also Wood Pulleys.

OFFICE AND FACTORY:

Eaton Place, WORCESTER, MASS.

"On Time" our watchword

Machine Jobbing, Special Machinery, Patents perfected and

Automobiles

repaired and stored

DAWSON MACHINE CO.

Telephone 2 Sargent Street

"Everything in Wire"

We manufacture from steel and brass wire a salable line of Hardware and Kitchen Goods Specialties, Belt Hooks; Universal, Jack and Plumbers' Chains; Coat and Hat Hooks; Garment Hangers; Blind Fixtures; Kitchen Wire Goods; Wire Nails, Tacks and Staples. Our line on sale at all Hardware and Department Stores. Special Goods made to order from wire.

***The* Wire Goods Company**

WORCESTER, MASSACHUSETTS

Norton Emery Wheel Company

AWARDED

TWO GRAND PRIZES

TWO GOLD MEDALS

For NORTON PRODUCTS at St. Louis Exposition

GRINDING WHEELS
ALUNDUM ABRASIVE

GRINDING MACHINERY
INDIA OIL STONES

Highest Awards in all Classes

Plunger Elevator Co.,

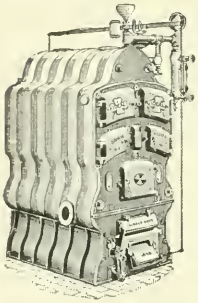
Safe, Long-Lived, Economical, High-Speed Passenger Elevators a Specialty. . . . . .

Hydraulic Plunger

ELEVATORS.

OFFICE AND FACTORY.

BARBER'S, WORCESTER, MASS



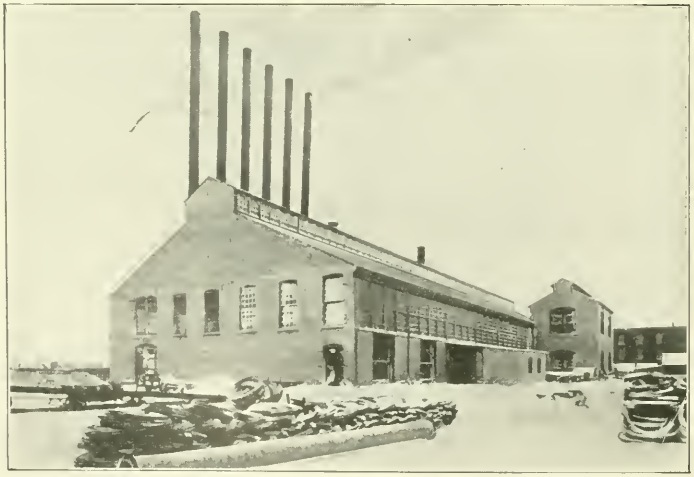
IDEAL BOILERS

Guarantee

Liberal Warmth, Economy of Fuel

Many people say so from experience.
Made in large variety of sizes to suit any requirement.

THE SINCLAIR CO., 28 Pearl Street, Worcester



Continuous Rolling Mills

Continuous Heating Furnaces

Continuous Gas Producers

Wire Mill Machinery

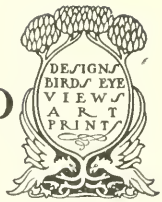
MORGAN CONSTRUCTION COMPANY

WORCESTER, MASS.

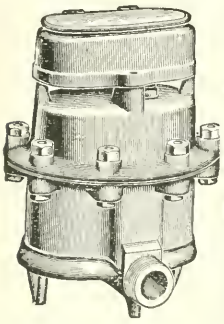
New York Office:
40 EXCHANGE PLACE

European Office:
52 RUE DE CONCRES, BRUSSELS

Half Tones
WOODBURY-CARLTON CO
made at No. 4 Walnut St.



UNION WATER METER CO.,



BENJAMIN F. OTIS, Pres. and Manager.
EDW. P. KING, Treas. and Supt.

Water Meters.

WORCESTER, MASS.

WORCESTER MACHINE SCREW CO.,

STANDARD SCREW CO. SUCCESSORS.

MANUFACTURERS OF

SET, CAP AND MACHINE

SCREWS

IN IRON, STEEL AND BRASS.

STUDS FOR STEAM ENGINES, PUMPS, ETC.

WORCESTER, MASS.

HATCH & BARNES CO.,

MANUFACTURERS OF

Doors, Sash, Blinds

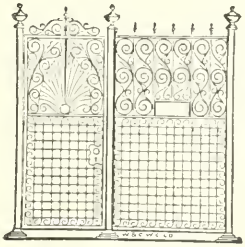
AND FINE BUILDERS' FINISH.

Practical Stair Builders. Newels, Balusters and Rails constantly on hand and made to order. Wood Turning a specialty.

Office, 196 Union Street, WORCESTER, MASS.

WRIGHT WIRE CO.

WIRE AND WIRE CLOTH



WIRE GUARD WORK.

Elevator Cabs and Enclosures

Coal Screens and Riddles.

POULTRY NETTING.

WORCESTER, MASS. PALMER, MASS

Duncan & Goodell Co.,

WHOLESALERS AND RETAILERS IN

Hardware and Cutlery.

We have the finest line of Table and Pocket Cutlery, also highest grade of Scissors, including all kinds from Finest Manicure Scissors to Tailors' Shears, to be seen in Worcester.

We make a specialty of Builders' Hardware and Supplies, and carry in stock a large line of best quality door and window trimmings.

404 Main Street, Cor. Pearl.

JAMAICA WHERE SUMMER IS 12 MONTHS LONG

Nowhere can winter be spent so delightfully

THE UNITED FRUIT COMPANY'S
Steel Twin-Screw U. S. Mail Steamships

Sailings Weekly from Boston, Philadelphia and Baltimore

Round Trip Fare, $75 including meals and berth in stateroom Single Fare, $40

Write for Jamaica Literature describing and illustrating the Island and tours of interest. Address General Passenger Agent

UNITED FRUIT COMPANY

Long Wharf, Boston.

UNITED FRUIT COMPANY

Or call on either of the following Worcester Agents:

J. F. HEALY, 396 Main St. O. F. RAWSON, 391 Main St.
S. S. VAN ETTEN, 385 Main Street.

WORCESTER BUSINESS DIRECTORY.

MANUFACTURERS AND DEALERS.

AGRICULTURAL IMPLEMENTS.

Worcester Kemp Manure Spreader, Buckeye Mower, Bullard Hay Tedder, Worcester Rake. RICHARDSON MANUFACTURING CO., 84 Prescott St., Worcester.

ARCHITECTS.

George H. Clemence, Architect, Walker Building, Room 205, 405 Main Street, Worcester, Mass.

Stephen C. Earle, Architect, Room 45, Burnside Building, 339 Main Street, Worcester, Mass.

Fuller & Delano Company, Architects, 452 Main St. Worcester, Mass. Ward P. Delano, Robt. L. Fuller

Clellan Waldo Fisher, Architect. Office, 718 State Mutual Building, Worcester.

Frost, Briggs & Chamberlain, Architects, Offices 518 Main Street, Knowles Building, Worcester, Mass.

ASH SIFTERS.

"Hustler" Ash Sifter. HILL DRYER CO., 340-350 Park Avenue, Worcester, Mass.

BALL BEARINGS.

Worcester Pressed Steel Co., 100 Beacon Street. Automobile and Bicycle Parts. Metal Stampings.

BANKS.

People's Savings Bank, 452 Main Street. See Advt.

Worcester County Institution for Savings, 13 Foster St. See Advt.

Worcester Five Cents Savings Bank, 314 Main St. See Advt.

Worcester Mechanics Savings Bank, 311 Main St. See Advt.

Worcester National Bank, 9 Foster Street. See Advt.

Worcester Trust Co., 448 Main Street. See Advt.

BELTING.

Oak tanned leather belting always in stock. GRATON & KNIGHT MFG. CO., Bloomingdale Road. See Advt.

Pure Oak Bark Tanned Leather Belting. Special Waterproof Belting, "B. & F." Belting, Dynamo Belts and other specials. Mill Supplies. J. F. & W. H. WARREN CO., 44 Vine Street, Worcester, Mass.

BLACKSMITHS.

Common Sense Shoeing Forge. JOHN J. GRADY, 162 Mechanic Street. Tel. 1028-6.

BOILERS.

The Sinclair Co. Ideal boilers. 28 Pearl St. See Advt.

BOLTS AND NUTS.

Bolts, cold punched nuts and washers, die making and metal punching. THOMAS SMITH CO., Frank W. Foye, 14 Cypress Street.

BOOK BINDERY.

Book Binders and Paper Rulers. J. S. WESBY & SONS, 387 Main Street and 50 Foster Street.

BOWLING SUPPLIES.

Balls, pins, and improved foot chalks. M. A BARTLETT, 29 Cypress Street.

BUILDERS' FINISH.

Doors, sash, blinds, and fine builders' finish. HATCH & BARNES CO., 196 Union Street. See Advt.

BUILDERS' SUPPLIES.

Builders' Supplies. SMITH, GREEN CO., 32 Bloomingdale Road. See Advt.

BUSINESS COLLEGES.

Bookkeepers, stenographers and typewriters. BECKER'S BUSINESS COLLEGE, 492 Main St. See Advt.

Business Men when in need of carefully trained Bookkeepers and Stenographers apply to C. B. POST, WORCESTER BUSINESS INSTITUTE, 476 Main Street.

CALENDARS.

Advertising Calendars, Blotters, Circulars, Booklets, Mailing Cards, Etc. PROGRESS PUB. CO., 377 Main St.

CARDING MACHINERY.

Twentieth Century Henderson Double Carding Process. J. H. WHITTLE, 150 Harlow Street. See Advt.

CHAINS.

Jack Chains, Ladder Chains, all kinds of Metal. HALE BROTHERS COMPANY, 42 Lagrange Street.

CIVIL ENGINEERS.

Plans, water supply and sewerage. H. H. BROWNING, civil engineer, 405 Main Street.

CLOTHES DRYERS.

For Lawn, Balcony or Roof. HILL DRYER CO., 340 to 350 Park Avenue, Worcester, Mass.

CONTRACTORS AND BUILDERS.

Builders of public, commercial and manufacturing buildings and private residences. J. W. BISHOP CO., 107-109 Foster Street. Worcester, Boston, Providence, R. I.

E. J. Cross, General Contractor. Estimates furnished on any class of buildings. Office, 82 Foster Street, Worcester.

Public and mercantile buildings a specialty. THE NORCROSS BROS. CO. See Advt.

CUT GLASS WORKS.

Rich Cut Glass. Factory and Salesroom, 17 Hermon Street. WILLIAM TAIT, Proprietor.

DECORATORS AND PAINTERS.

Artistic frescoing and decorating of churches, halls and residences, sign and house painting. SANDGREN & EHNBORG, 274 Main Street. Tel. 983-4.

ELECTRICAL ENGINEERS AND CONTRACTORS.

Electrical Contractors and Dealers in Supplies. We install Dynamos and Motors, Telephones, Lighting, Etc. PAGE ELECTRIC CO., 24 Pearl Street.

Electrical Supplies, construction Automatic Telephone Systems. PLUMMER, HAM & RICHARDSON, 619 Main Street.

ELECTRIC LIGHT AND POWER.

Electric Light and Power supplied by WORCESTER ELECTRIC LIGHT COMPANY, 66 Faraday Street, Worcester, Mass.

ELEVATORS.

Hydraulic plunger elevators. PLUNGER ELEVATOR CO., Barber's. See Advt.

EMERY WHEELS.

Grinding Wheels, grinding machinery and India oil stones. NORTON EMERY WHEEL CO. See Advt.

ENGRAVING.

Half-Tone Work done artistically. WOODBURY-CARLTON CO., 4 Walnut Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

ENGINE LATHES.

Drilling Machines and engine lathes. PRENTICE BROTHERS, Cambridge Street. See Advt.

ENGINEERS.

Mill Buildings, Steel, Concrete Construction; Power Installations, THOMPSON & GALLAGHER, 339 Main St.

ENVELOPE MANUFACTURERS.

Envelopes and Envelope Specialties. LOGAN, SWIFT & BRIGHAM DIVISION. See Adv.

All Kinds and sizes of Envelopes, also Paper Boxes. SHERMAN ENVELOPE CO., Office and Factory, 75 School Street, Worcester.

FIREARMS.

Guns and pistols of all kinds. HARRINGTON & RICHARDSON ARMS CO., Park Avenue. See Advt.

FOUNDRIES.

Light and heavy Iron Castings. JACKSON STREET FOUNDRY, J. A. Colvin, Prop., 52 Jackson Street.

GAS ENGINES.

Greendale Gas Engine Co., manufacturers of Gas and Gasoline Engines. S. F. BURLINGAME, Manager. Shop 'Phone 1063-2.

HARDWARE.

Wholesale and retail dealers in hardware and cutlery. DUNCAN & GOODELL CO., 404 Main Street. See Advt.

HEATING CONTRACTORS.

Ideal Boilers, steam and water. THE SINCLAIR CO., 28 Pearl Street. See Advt.

Acetylene Lighting—Plants installed. THE SINCLAIR CO., 28 Pearl Street. See Advt.

HOTEL.

Bay State House, European plan. C. W. RIPLEY, proprietor. See Advt.

IRON AND STEEL.

Supplies for blacksmiths, carriage-makers. GEO. F. BLAKE, JR., & CO. Office and storehouse Mechanic and Foster Streets. Tel. 2508-2509.

IRON FOUNDERS.

High Grade Machinery Castings. STANDARD FOUNDRY CO., Tainter Street. See Advt.

INSURANCE.

General insurance agency. CHARLES E. GRANT, Rooms 711 and 712 State Mutual Building.

Life Policies. STATE MUTUAL LIFE ASSURANCE CO. See Advt.

LEATHER AND CANVAS GOODS.

Suit Cases and Bags, Toilet Cases, Music Goods, Etc. WARREN LEATHER GOODS CO., 80 Austin Street.

LEATHER BELTING.

Hudson's extra oak-tanned Leather Belting always in stock. HUDSON BELTING CO., Eaton Place. See Advt.

LOOMS AND REPAIRS.

Looms and Repairs. CROMPTON & KNOWLES LOOM WORKS. See Advt.

LUMBER.

W. H. Sawyer Lumber Co. Hard Pine Timber a specialty. All kinds Finish constantly in kiln.

Stone & Foster Lumber Co., Central and Union Sts. General line of lumber, wholesale or retail.

MACHINE JOBBING.

Machine Jobbing, Special Machinery, Patents perfected. DAWSON MACHINE CO., 2 Sargent Street. See Advt.

MACHINE SCREWS.

Machine Screws in iron, steel and brass. WORCESTER MACHINE SCREW CO., Beacon Street. See Advt.

MACHINISTS' TOOLS.

Planers a specialty, Machine Tools, Lathes and Drills. J. S. WHEELER & CO., 23 Hermon Street.

Lathes, Punches and Shears. W. C. YOUNG, 17 Hermon Street.

METAL SPECIALTIES.

Stove Trimmings, steampipe collars and ferrules. MATTHEWS MFG. CO., 104 Gold Street. See Advt.

MILL SUPPLIES.

Crawford & Co., 665 Main Street. Everything in Mill Supplies, Wool Stock, Cotton and Cotton Waste.

MOHAIR YARNS.

Manufacturers of Mohair and Worsted Yarns. QUEENSBURY MILLS, Worcester, Mass. See Advt.

OVERALLS.

Overalls, Shirts, Frocks, Etc. A. G. HILDRETH, 25 Hermon Street, Worcester, Mass.

PAINTS AND OILS.

Painters' Supplies and Lubricating Oils. F. M. HEATH & CO., 40 Southbridge St., opp. Post Office.

PATENT CURTAIN RODS.

Adjustable Curtain Rods and Sockets. FOWLER & CO., 65 Beacon Street, Worcester, Mass.

PRINTING.

Good Printing quickly executed. F. S. BLANCHARD & CO., 6 Walnut Street. See Advt.

Printing and Engraving, HURLEY'S PRINTERY, 38 and 44 Front Street.

Posters, Show Cards, Theatrical and Commercial Printing. C. R. STOBBS, 16 Mechanic Street.

Commercial Printing and Blank-book Work. O. B. WOOD, 50 Foster Street. See Advt.

RAILROADS.

Boston & Albany division of N. Y. C. & H. R. R. R. See Advt.

RAZORS.

Manufacturers of all styles, including Safety Razors. J. R. TORREY RAZOR CO., Chandler Street.

REEDS.

Organ Reeds and Reed Boards. HAMMOND REED CO., Worcester, Mass. See Advt.

RAZOR STROPS.

Manufacturers of all styles of Strops, also Stropping Machine. J. R. TORREY & CO., Chandler Street.

ROLLING MILLS.

Continuous Rolling Mills, Gas Producers and Wire Mill Machinery. MORGAN CONSTRUCTION CO. See Adv.

SHOE MANUFACTURERS.

Heywood, the Worcester made Shoe. HEYWOOD BOOT & SHOE CO., Retail Store 415 Main Street. See Advt.

SLIPPERS.

Shoes and Slippers, Barefoot Sandals. Felt footwear a specialty. WORCESTER SLIPPER CO., J. P. Grosvenor, Prop., 370 Park Avenue.

STAMPINGS.

Worcester Pressed Steel Co., 100 Beacon Street. Light and heavy Stampings in all metals.

STEAM AND GAS FITTERS.

Braman, Dow & Co., Contractors for Heating Apparatus, Steam, Water or Vapor. Mill Piping a specialty. 7 Washington Square.

STEAM AND GAS SUPPLIES.

Leading Makes of steam and hot water heaters. CENTRAL SUPPLY CO., 35 Waldo Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

STEAMSHIP LINES.

Steamship Lines—UNITED FRUIT CO.'S trips to Jamaica. See Adv.

SUIT CASES AND BAGS.

Largest and best variety, up-to-date in every respect. WARREN LEATHER GOODS CO.

TACKS AND NAILS.

Shoe Tacks, Hungarian Nails, Hob Nails. P. E. SOMERS, 17 Hermon Street, Worcester, Mass.

TAXIDERMIST.

Chas K. Reed, Naturalists' Supplies. 75 Thomas Street, corner Union, Worcester Mass.

VALENTINES.

Valentines, Holiday Goods, Easter Novelties. THE GEO. C. WHITNEY CO., 67 Union Street, Worcester.

WATER METERS.

The Best Known Meter. UNION WATER METER CO., Hermon Street. See Advt.

WIRE FLY KILLER.

Bigelow Wire Fly Killer. It kills but does not crush the fly. J. F. BIGELOW, 11 Foster Street.

WIRE GOODS.

Wire of all Kinds. SPENCER WIRE CO., Worcester and Spencer. See Advt.

Wire Goods and Wire Novelties. WORCESTER WIRE GOODS CO. See Advt.

Wire, wire cloth and poultry netting. WRIGHT WIRE CO., Worcester and Palmer. See Advt.

WOOL-SPINNING MACHINERY.

Johnson & Bassett, Wool-Spinning Machinery. 114 Foster Street, Worcester, Mass.

BANKS.

WORCESTER NATIONAL BANK, 9 Foster Street. Incorporated as a State Bank in 1804; as a National Bank in 1864. Capital $250,000; surplus and undivided profits $321,508.72. Dividends April and October; rate past year, 8 per cent. President, James P. Hamilton; Cashier, Samuel D. Spurr; Assistant Cashier, F. M. Hedden: Directors, A. George Bullock, Charles A. Chase, James P. Hamilton, Lincoln N. Kinnicutt, Edward L. Davis, George F. Brooks, Paul B. Morgan, Reginald Washburn, Matthew J. Whittall.

WORCESTER TRUST COMPANY, 344 Main Street. Incorporated in 1868. Capital $500,000; surplus $500,000. Dividends January, April, July, and October; rate past year, 6 per cent. William D. Luey, President; Henry A. Marsh, Nathaniel Paine, Henry P. Murray, Vice Presidents; Samuel H. Clary, Treasurer; Alvin J. Daniels, Secretary; Chairman of Board of Directors, Henry A. Marsh; Directors, Charles S. Barton, Geo. F. Blake, A. George Bullock, John H. Coes, Alexander DeWitt, Thomas B. Eaton, William Endicott, Jr., Henry F. Harris, Rockwood Hoar, C. Henry Hutchins, Lincoln N. Kinnicutt, Edwin T. Marble, J. Russel Marble, Neal Rantoul, Wm. H. Sawyer, Frank Bulkeley Smith, E. D. Thayer, Chas. M. Thayer, Robert M. Washburn, George W. Wells, M. J. Whittall, G. Marston Whitin, Charles A. Williams, Robert Winsor.

PEOPLE'S SAVINGS BANK, 452 Main Street. Incorporated in 1864. Deposits $11,185,000; guaranty fund $520,000. Interest payable February and August 2d. Deposits go on interest February, May, August and November 1; rate past year, 3¾ per cent. President, Samuel R. Heywood; Treasurer, Charles M. Bent; Assistant Treasurer, Frederick W. White; Investment Committee, Samuel R. Heywood, William W. Johnson, Edwin T. Marble, Henry M. Harris, Charles M. Thayer.

THE WORCESTER MECHANICS SAVINGS BANK, Worcester, Mass. Organized, 1851. Officers: President, A. B. R. Sprague; Vice Presidents, John H. Coes, Thomas B. Eaton, Eli J. Whittemore; Treasurer, Frank W. Cutting; Trustees, A. B. R. Sprague, Thomas B. Eaton, Thomas G. Kent, Eli J. Whittemore, John H. Coes, Francis H. Dewey, Chas. A. Hill, Chas. F. Hanson, Geo. E. Merrill, Levis G. White, Francis W. Blacker, Henry S. Pratt, Arthur P. Rugg, Chas. D. Lamson.

WORCESTER FIVE CENTS SAVINGS BANK, 314 Main Street. Incorporated, April 1, 1854. Assets, $10,473,732.59; number of depositors, 34,421. Deposits received from five cents to $1000 and placed on interest January, April, July and October. Dividends payable on and after January 15 and July 15. President, Henry M. Witter; Vice Presidents, Simeon N. Story, Gilbert J. Rugg, Edwin Brown, Roger F. Upham, Otis E. Putnam, James Draper; Treasurer, J. Stewart Brown.

WORCESTER COUNTY INSTITUTION FOR SAVINGS, 13 Foster Street. Incorporated, February 5, 1828. Deposits, $19,014,022; assets, $20,414,156; number depositors, 39,955. Deposits put on interest January, April, July and October. Dividends payable January 15 and July 15. President, Chas. A. Chase; Vice Presidents, Edward L. Davis, Geo. E. Francis, Thos. H. Gage; Treasurer, Alfred L. Aiken; Board of Investment, Chas. A. Chase, Sam'l B. Woodward, Geo. E. Francis, Lyman A. Ely, A. George Bullock; Clerk of Corporation, Chas. F. Aldrich.

The Old Family Wine Store

SOLE MANUFACTURERS OF

G.F.H. PRIVATE STOCK WHISKEY

and

Cold Blast Ginger Ale

Write for Price List

GEO. F. HEWETT CO.

Established 1860
Telephone 2455

41, 43, 45 Waldo St., Worcester, Mass.

Boston & Albany RAILROAD
N. Y. C. & H. R. R. R., LESSEE.

NEW YORK CENTRAL LINES

Sleeping Car Service Between Worcester and New York City

Via Boston & Albany R. R., over "Springfield Line."

Sleeper is placed in the Depot at 10.30 p.m., and may be occupied at that time; leaves 12.44 midnight; due New York City at 6.45 a.m.; sleeper will remain in Grand Central Station until 7 o'clock.

Returning Sleeper is placed in Grand Central Station 10 p.m., and may be occupied at that time; leaves at 11.03 p.m. Will be sidetracked at Worcester so that passengers may remain in car until 7 a.m. if desired.

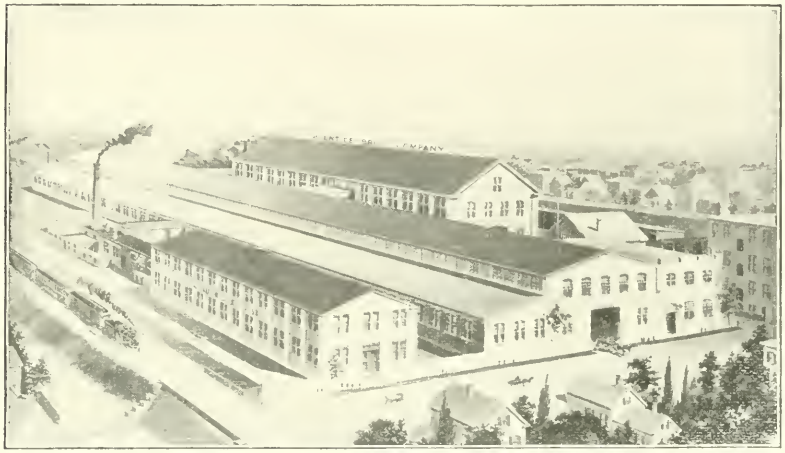
10 TRAINS A DAY leave Worcester via New York Central Lines, as follows: 6.24, 9.40, 11.23, 11.55 a.m.; 1.04, 3.09, 4.39, 7.10, 9.09 p.m.; 1.17 a.m.

For reservations call on W. U. Bixby, Ticket Agent, Union Station.
S. S. Van Etten, City Ticket and Passenger Agent, 385 Main Street, Worcester.
A. S. HANSON, General Passenger Agent, Boston.

In writing to advertisers, please mention the Worcester Magazine.

PRENTICE BROS. COMPANY,

WORCESTER, MASS.



BUILDERS OF

DRILLING MACHINES AND ENGINE LATHES.

COATES CLIPPERS

Coates Hair Clippers and flexible transmission.

COATES CLIPPER MFG. CO., WORCESTER, MASS.

MATTHEWS MANUFACTURING COMPANY,

MANUFACTURERS OF

STOVE TRIMMINGS,
BALL BEARINGS,

Steam-Pipe Collars,
Ferrules and
Sheet Metal Specialties.

104 Gold Street, Worcester, Mass.
A. T. MATTHEWS, Treasurer.

OUR NEW EQUIPMENT

Of Type and Fast Machines for HIGH GRADE PRINTING has been pronounced by experts to be one of the best in New England. We can please you in quality and price.

Commonwealth Press

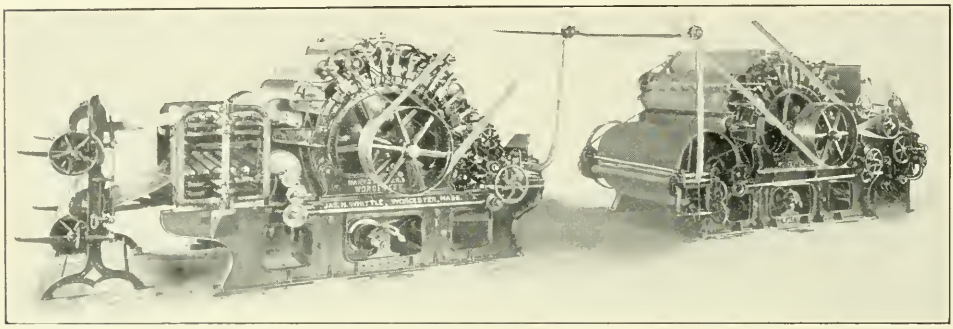
O. B. WOOD
50 Foster Street, Worcester

The Twentieth Century Henderson Double Carding Process

Manufactured by JAMES H. WHITTLE

From Union Depot take Fitchburg cars that run on the hour and half hour, or get transfer at City Hall for Barber's Crossing or Brittan Square Cars, that run every 7½ minutes.

150 Harlow St., Worcester, Mass.



This cut represents the latest and most improved Carding Machine for carding woolens, worsteds, etc. By this process a Two-card Set will give more even work, better mixing, better carding, and as much carding as any Three-card Set now manufactured. This can be furnished in Three-card sets if required. By using this carding device about one-third of the space is saved, one third of the power, and the Cards are sold for less money than a Three-card Set With a Two-card Set, on the Breaker we get 8 Workers and on the Finisher 6 Workers, which makes 14 Workers against 17 in the regular way.

The Workers on these Cards run in pairs. The first Worker does no carding, as it runs point to point with the clothing on the main cylinder. This simply holds the stock while the main cylinder draws the staple out to its fullest length. It is then passed to the second Worker, which cards it, and what does not pass by this Worker is carried back by the Upper Stripper to the first Worker of the pair and recombed, and then returns to the second Worker, following through this process until it is thoroughly carded. The next set of workers is set slightly closer, and goes through the same operation.

In one set of these Cards there are 42 Carding Points against 17 Carding Points in a Three-card Set, giving far superior Carding to any Three-card Set now running.

We make these Cards the following sizes:

48″ and 60″ x 48″, either wood or iron Cylinders, which carries 14 Workers and 14 Strippers; 48″ and 60″ x 60″, which carries 18 Workers and 18 Strippers. Where not otherwise specified, we always put on a 30″ Iron Doffer on Breaker and 12″ Ring Doffers on the Finisher.

If you are in the market for Cards it will pay you to look into this.

JAMES H. WHITTLE.

Bay State House.

American and .. .. European Plan

C. W. RIPLEY, Proprietor .·. WORCESTER, MASS.

H. HODGSON, Pres. and Treas. *FRED HODGSON, Gen. Mgr.*

Queensbury Mills

Worcester, Mass.

Manufacturers of Mohair and Worsted Yarns.

HAMMOND REED COMPANY

MANUFACTURERS OF

Organ Reeds, Reed Boards and other Organ Supplies

Telegraph and Cable Address, "Reeds." Worcester, Mass., U. S. A. **WORCESTER, MASS.**

ST. JOHN'S CHURCH, NORTHAMPTON, MASS.
The Norcross Brothers Co., Builders, Worcester, Mass.

THE ONLY GROUND FLOOR PRINTING OFFICE IN THE CITY

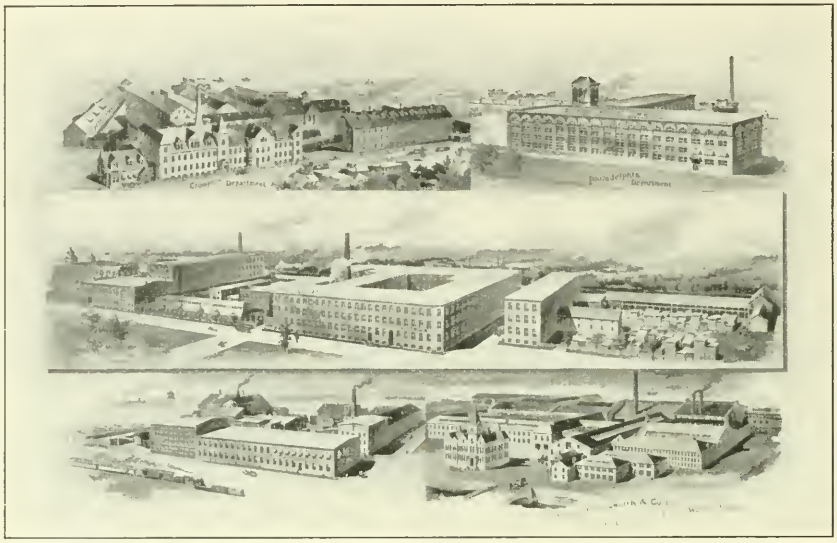
TROUBLES ALL OVER

If you put your commissions in our hands your Advertising Troubles will all be over. We are Catalogue and Booklet Builders from start to finish. You can get rid of that worried look if you say the word to

The Blanchard Press
WORCESTER MASS.

The Blanchard Press
Six Walnut Street
Worcester, Mass.

LOOMS and REPAIRS



CROMPTON & KNOWLES LOOM WORKS

Worcester Providence Philadelphia

The Smith, Green Company

R. C. CLEVELAND, President and Treasurer

Office, Yards and Warehouses: 32 Bloomingdale Road, Worcester, Mass.

Wholesale and Retail Builders' Supplies

PROPRIETORS OF

Elastic Pulp Plaster Manufacturing Company

Manufacturers of

ELASTIC PULP PLASTER

The only perfect Wall Plaster in the world

For Statistics of Worcester and List of Things Made

Write to the SECRETARY BOARD OF TRADE

In writing to advertisers, please mention the Worcester Magazine.

The Worcester Magazine

Vol. IX. CONTENTS FOR APRIL, 1906. No. 4

Frontispiece. Worcester High Schools.

Magazine and Municipal Comment.

Will Not Destroy Architecture, - 69
Light on Worcester's Finances, - 70
Limiting Assignments of Wages, - 70
Mr. Marble on Railroad Rates, - 71
Prof. Parsons' Fifteen Reasons, - 71
Boston Against Sky-Line Advertising, 72
Vice-Consulate for Worcester, - 72
Boston Finds it Expensive, - - 73
Ohio Man for Board of Trade Banquet, 73
Revival of New England Lyceum, 74
Advice from Germany, 75

A Molecule of Light on City Finances. By John B. Bowker, - 74

How to Get Foreign Trade. By C. A. Green, - - - - - - 80

Senator Lodge on New England, - 84

Public Schools and Women Workers, 86

Board of Trade Notes, - - - 88

Published monthly by the Worcester Board of Trade, 11 Foster Street, Worcester, Mass. Committee on Publication, Rufus B. Fowler, G. Stanley Hall, Irving E. Comins, Milton P. Higgins, George W. Mackintire. Terms $1.00 a year; single copies, 10 cents. For sale by newsdealers. Entered at the Post Office, Worcester, Mass., as second-class matter, May 10, 1901.

Spencer Wire Company

91 Webster Street, Worcester, Mass.

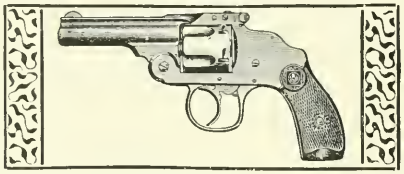
ALL KINDS OF

Wire and Wire Specialties

Send for our new 50-page
Catalogue

That Office Help Is a source of continual anxiety to the business man unless he has the best. Poor help costs more than good help does. **Becker's Business College** has turned out the best class of help employed in Worcester. When in need of such help send to Becker's—the school giving the strongest business training in New England.

Telephone 378-3 **E. C. A. BECKER, Prop.**



Established 1871. Incorporated 1888.

HARRINGTON & RICHARDSON ARMS CO.,

Manufacturers of

FIREARMS.

Descriptive Catalogue on request. WORCESTER, MASS., U. S. A.

U.S. ENVELOPE CO. USE SPRINGFIELD MASS.

Logan, Swift & Brigham

ENVELOPE CO. DIVISION

Worcester, Massachusetts

MANUFACTURERS OF STANDARD

... Envelopes ...

The Outlook Envelope

Insures economy and absolute accuracy in the addressing of all your mail matter.

The Improved Columbian Clasp Envelope

The best and most satisfactory Merchandise Envelope made.

Specialists in STEEL DIE STAMPING

for Commercial Work. Samples and Prices of our Standard Goods furnished by your Stationer or Printer.

Worcester Has More Than 1100 Manufacturing Plants

Employing 26,000 Wage Earners

Its Annual Pay-roll is $13,000,000

The Value of Products annually produced is upward of $54,000,000

Write the Board of Trade for Particulars

Established 1854

Hudson Belting Co.

Manufacturers of

Stretched Oak Tanned

LEATHER BELTING

Round, Twisted and Solid Belting, Strapping, Lacing, Rubber Belting. Special Belts for Dynamos. Hudson's Extra English Black. Also Wood Pulleys.

OFFICE AND FACTORY:

Eaton Place, WORCESTER, MASS.

"On Time" our watchword

Machine Jobbing, Special Machinery, Patents perfected and

Automobiles

repaired and stored

DAWSON MACHINE CO.

Telephone 2 Sargent Street

"Everything in Wire"

We manufacture from steel and brass wire a salable line of Hardware and Kitchen Goods Specialties, Belt Hooks; Universal, Jack and Plumbers' Chains; Coat and Hat Hooks; Garment Hangers; Blind Fixtures; Kitchen Wire Goods; Wire Nails, Tacks and Staples. Our line on sale at all Hardware and Department Stores. Special Goods made to order from wire.

***The* Wire Goods Company**

WORCESTER, MASSACHUSETTS

Norton Emery Wheel Company

AWARDED

TWO GRAND PRIZES

TWO GOLD MEDALS

For NORTON PRODUCTS at St. Louis Exposition

GRINDING WHEELS
ALUNDUM ABRASIVE

GRINDING MACHINERY
INDIA OIL STONES

Highest Awards in all Classes

Plunger Elevator Co.,

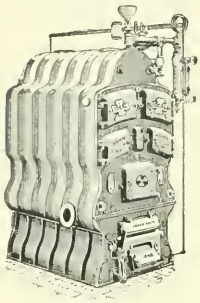
Safe, Long-Lived, Economical, High-Speed Passenger Elevators a Specialty. . . . . .

Hydraulic Plunger

ELEVATORS.

OFFICE AND FACTORY,

BARBER'S, WORCESTER, MASS



IDEAL BOILERS

Guarantee

Liberal Warmth, Economy of Fuel

Many people say so from experience.
Made in large variety of sizes to suit any requirement.

THE SINCLAIR CO., 28 Pearl Street, Worcester

Continuous Rolling Mills

Continuous Heating Furnaces

Continuous Gas Producers

Wire Mill Machinery

MORGAN CONSTRUCTION COMPANY

WORCESTER, MASS.

New York Office:
40 EXCHANGE PLACE

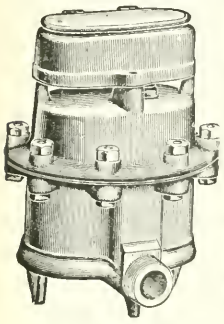
European Office:
52 RUE DE CONGRES, BRUSSELS

PHOTOGRAPHING & RETOUCHING · MACHINERY etc

Half Tones
WOODBURY-CARLTON CO
made at No. 4 Walnut St.

DESIGNS BIRDS' EYE VIEWS ART PRINT

UNION WATER METER CO.,



BENJAMIN F. OTIS, Pres. and Manager.
EDW. P. KING, Treas. and Supt.

Water Meters.

WORCESTER, MASS.

WORCESTER MACHINE SCREW CO.,

STANDARD SCREW CO. SUCCESSORS.

MANUFACTURERS OF

SET, CAP AND MACHINE

SCREWS

IN IRON, STEEL AND BRASS.

STUDS FOR STEAM ENGINES, PUMPS, ETC.

WORCESTER, MASS.

HATCH & BARNES CO.,

MANUFACTURERS OF

Doors, Sash, Blinds

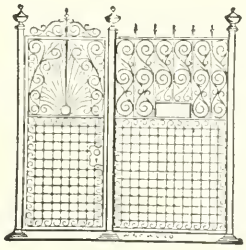
AND FINE BUILDERS' FINISH.

Practical Stair Builders. Newels, Balusters and Rails constantly on hand and made to order. Wood Turning a specialty.

Office, 196 Union Street, WORCESTER, MASS.

WRIGHT WIRE CO.

WIRE AND WIRE CLOTH



WIRE GUARD WORK.

Elevator Cabs and Enclosures

Coal Screens and Riddles.

POULTRY NETTING.

WORCESTER, MASS. PALMER, MASS

Duncan & Goodell Co.,

WHOLESALERS AND RETAILERS IN

Hardware and Cutlery.

We have the finest line of Table and Pocket Cutlery, also highest grade of Scissors, including all kinds from Finest Manicure Scissors to Tailors' Shears, to be seen in Worcester.

We make a specialty of Builders' Hardware and Supplies, and carry in stock a large line of best quality door and window trimmings.

404 Main Street, Cor. Pearl.

In writing to advertisers, please mention the Worcester Magazine.

JAMAICA WHERE SUMMER IS 12 MONTHS LONG

Nowhere can winter be spent so delightfully

THE UNITED FRUIT COMPANY'S
Steel Twin-Screw U. S. Mail Steamships

Sailings Weekly from Boston, Philadelphia and Baltimore

Round Trip Fare, $75 including meals and berth in stateroom Single Fare, $40

Write for Jamaica Literature describing and illustrating the Island and tours of interest. Address General Passenger Agent

UNITED FRUIT COMPANY

Long Wharf, Boston.

UNITED FRUIT COMPANY

Or call on either of the following Worcester Agents:

J. F. HEALY, 396 Main St. O. F. RAWSON, 391 Main St.
S. S. VAN ETTEN, 385 Main Street.

WORCESTER BUSINESS DIRECTORY.

MANUFACTURERS AND DEALERS.

AGRICULTURAL IMPLEMENTS.

Worcester Kemp Manure Spreader, Buckeye Mower, Bullard Hay Tedder, Worcester Rake. RICHARDSON MANUFACTURING CO., 84 Prescott St., Worcester.

ARCHITECTS.

George H. Clemence, Architect, Walker Building, Room 205, 405 Main Street, Worcester, Mass.

Stephen C. Earle, Architect, Room 45, Burnside Building, 339 Main Street, Worcester, Mass.

Fuller & Delano Company, Architects, 452 Main St. Worcester, Mass. Ward P. Delano, Robt. L. Fuller

Clellan Waldo Fisher, Architect. Office, 718 State Mutual Building, Worcester.

Frost, Briggs & Chamberlain, Architects, Offices 518 Main Street, Knowles Building, Worcester, Mass.

ASH SIFTERS.

"Hustler" Ash Sifter. HILL DRYER CO., 340-350 Park Avenue, Worcester, Mass.

BALL BEARINGS.

Worcester Pressed Steel Co., North Ave.; take Barber's Crossing Car. Automobile and Bicycle Parts. Metal Stampings.

BANKS.

People's Savings Bank, 452 Main Street. See Advt.

Worcester County Institution for Savings, 13 Foster St. See Advt.

Worcester Five Cents Savings Bank, 314 Main St. See Advt.

Worcester Mechanics Savings Bank, 311 Main St. See Advt.

Worcester National Bank, 9 Foster Street. See Advt.

Worcester Trust Co., 448 Main Street. See Advt.

BELTING.

Oak tanned leather belting always in stock. GRATON & KNIGHT MFG. CO., Bloomingdale Road. See Advt.

Pure Oak Bark Tanned Leather Belting. Special Waterproof Belting, "B. & F." Belting, Dynamo Belts and other specials. Mill Supplies. J. F. & W. H. WARREN CO., 44 Vine Street, Worcester, Mass.

BLACKSMITHS.

Common Sense Shoeing Forge. JOHN J. GRADY, 162 Mechanic Street. Tel. 1028-6.

BOILERS.

The Sinclair Co. Ideal boilers. 28 Pearl St. See Advt.

BOLTS AND NUTS.

Bolts, cold punched nuts and washers, die making and metal punching. THOMAS SMITH CO., Frank W. Foye, 14 Cypress Street.

BOOK BINDERY.

Book Binders and Paper Rulers. J. S. WESBY & SONS, 387 Main Street and 50 Foster Street.

BUILDERS' FINISH.

Doors, sash, blinds, and fine builders' finish. HATCH & BARNES CO., 196 Union Street. See Advt.

BUILDERS' SUPPLIES.

Builders' Supplies. SMITH, GREEN CO., 32 Bloomingdale Road. See Advt.

BUSINESS COLLEGES.

Bookkeepers, stenographers and typewriters. BECKER'S BUSINESS COLLEGE, 492 Main St. See Advt.

Business Men when in need of carefully trained Bookkeepers and Stenographers apply to C. B. POST, WORCESTER BUSINESS INSTITUTE, 476 Main Street.

CALENDARS.

Advertising Calendars, Blotters, Circulars, Booklets, Mailing Cards, Etc. PROGRESS PUB. CO., 377 Main St.

CARDING MACHINERY.

Twentieth Century Henderson Double Carding Process. J. H. WHITTLE, 150 Harlow Street. See Advt.

CHAINS.

Jack Chains, Ladder Chains, all kinds of Metal. HALE BROTHERS COMPANY, 42 Lagrange Street.

CLOTHES DRYERS.

For Lawn, Balcony or Roof. HILL DRYER CO., 340 to 350 Park Avenue, Worcester, Mass.

CONTRACTORS AND BUILDERS.

Builders of public, commercial and manufacturing buildings and private residences. J. W. BISHOP CO., 107-109 Foster Street. Worcester, Boston, Providence, R. I.

E. J. Cross, General Contractor. Estimates furnished on any class of buildings. Office, 82 Foster Street, Worcester.

Public and mercantile buildings a specialty. THE NORCROSS BROS. CO. See Advt.

CUT GLASS WORKS.

Rich Cut Glass. Factory and Salesroom, 17 Hermon Street. WILLIAM TAIT, Proprietor.

DECORATORS AND PAINTERS.

Artistic frescoing and decorating of churches, halls and residences, sign and house painting. SANDGREN & EHNBORG, 274 Main Street. Tel. 983-4.

ELECTRICAL ENGINEERS AND CONTRACTORS.

Electrical Contractors and Dealers in Supplies. We install Dynamos and Motors, Telephones, Lighting, Etc. PAGE ELECTRIC CO., 24 Pearl Street.

Electrical Supplies, construction Automatic Telephone Systems. PLUMMER, HAM & RICHARDSON, 619 Main Street.

ELECTRIC LIGHT AND POWER.

Electric Light and Power supplied by WORCESTER ELECTRIC LIGHT COMPANY, 66 Faraday Street, Worcester, Mass.

ELEVATORS.

Hydraulic plunger elevators. PLUNGER ELEVATOR CO., Barber's. See Advt.

EMERY WHEELS.

Grinding Wheels, grinding machinery and India oil stones. NORTON EMERY WHEEL CO. See Advt.

ENGRAVING.

Half-Tone Work done artistically. WOODBURY-CARLTON CO., 4 Walnut Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

ENGINE LATHES.

Drilling Machines and engine lathes. PRENTICE BROTHERS, Cambridge Street. See Advt.

ENGINEERS.

Mill Buildings, Steel, Concrete Construction; Power Installations, THOMPSON & GALLAGHER, 339 Main St.

ENVELOPE MANUFACTURERS.

Envelopes and Envelope Specialties. LOGAN, SWIFT & BRIGHAM DIVISION. See Agv.

FIREARMS.

Guns and pistols of all kinds. HARRINGTON & RICHARDSON ARMS CO., Park Avenue. See Advt.

FOUNDRIES.

Light and heavy Iron Castings. JACKSON STREET FOUNDRY, J. A. Colvin, Prop., 52 Jackson Street.

GAS ENGINES.

Greendale Gas Engine Co., manufacturers of Gas and Gasoline Engines. S. F. BURLINGAME, Manager. Shop 'Phone 1063-2.

HARDWARE.

Wholesale and retail dealers in hardware and cutlery. DUNCAN & GOODELL CO., 404 Main Street. See Advt.

HEATING CONTRACTORS.

Ideal Boilers, steam and water. THE SINCLAIR CO., 28 Pearl Street. See Advt.

Acetylene Lighting—Plants installed. THE SINCLAIR CO., 28 Pearl Street. See Advt.

HOTEL.

Bay State House, European plan. C. W. RIPLEY, proprietor. See Advt.

IRON AND STEEL.

Supplies for blacksmiths, carriage-makers. GEO. F. BLAKE, JR., & CO. Office and storehouse Mechanic and Foster Streets. Tel. 2508-2509.

IRON FOUNDERS.

High Grade Machinery Castings. STANDARD FOUNDRY CO., Tainter Street. See Advt.

INSURANCE.

General insurance agency. CHARLES E. GRANT, Rooms 711 and 712 State Mutual Building.

Life Policies. STATE MUTUAL LIFE ASSURANCE CO. See Advt.

LEATHER AND CANVAS GOODS.

Suit Cases and Bags, Toilet Cases, Music Goods, Etc. WARREN LEATHER GOODS CO., 80 Austin Street.

LEATHER BELTING.

Hudson's extra oak-tanned Leather Belting always in stock. HUDSON BELTING CO., Eaton Place. See Advt.

LOOMS AND REPAIRS.

Looms and Repairs. CROMPTON & KNOWLES LOOM WORKS. See Advt.

LUMBER.

W. H. Sawyer Lumber Co. Hard Pine Timber a specialty. All kinds Finish constantly in kiln.

Stone & Foster Lumber Co., Central and Union Sts. General line of lumber, wholesale or retail.

MACHINE JOBBING.

Machine Jobbing, Special Machinery, Patents perfected. DAWSON MACHINE CO., 2 Sargent Street. See Advt.

MACHINE SCREWS.

Machine Screws in iron, steel and brass. WORCESTER MACHINE SCREW CO., Beacon Street. See Advt.

MACHINISTS' TOOLS.

Planers a specialty, Machine Tools, Lathes and Drills. J. S. WHEELER & CO., 23 Hermon Street.

Lathes, Punches and Shears. W. C. YOUNG, 17 Hermon Street.

METAL SPECIALTIES.

Stove Trimmings, steampipe collars and ferrules. MATTHEWS MFG. CO., 104 Gold Street. See Advt.

MILL SUPPLIES.

Crawford & Co., 665 Main Street. Everything in Mill Supplies, Wool Stock, Cotton and Cotton Waste.

MOHAIR YARNS.

Manufacturers of Mohair and Worsted Yarns. QUEENSBURY MILLS, Worcester, Mass. See Advt.

OVERALLS.

Overalls, Shirts, Frocks, Etc. A. G. HILDRETH, 25 Hermon Street, Worcester, Mass.

PAINTS AND OILS.

Painters' Supplies and Lubricating Oils. F. M. HEATH & CO., 40 Southbridge St., opp. Post Office.

PATENT CURTAIN RODS.

Adjustable Curtain Rods and Sockets. FOWLER & CO., 65 Beacon Street, Worcester, Mass.

PRINTING.

Good Printing quickly executed. F. S. BLANCHARD & CO., 6 Walnut Street. See Advt.

Printing and Engraving, HURLEY'S PRINTERY, 38 and 44 Front Street.

Posters, Show Cards, Theatrical and Commercial Printing. C. R. STOBBS, 16 Mechanic Street.

Commercial Printing and Blank-book Work. O. B. WOOD, 50 Foster Street. See Advt.

RAILROADS.

Boston & Albany division of N. Y. C. & H. R. R. R. See Advt.

RAZORS.

Manufacturers of all styles, including Safety Razors. J. R. TORREY RAZOR CO., Chandler Street.

REEDS.

Organ Reeds and Reed Boards. HAMMOND REED CO., Worcester, Mass. See Advt.

RAZOR STROPS.

Manufacturers of all styles of Strops, also Stropping Machine. J. R. TORREY & CO., Chandler Street.

ROLLING MILLS.

Continuous Rolling Mills, Gas Producers and Wire Mill Machinery. MORGAN CONSTRUCTION CO. See Adv.

SHOE MANUFACTURERS.

Heywood, the Worcester made Shoe. HEYWOOD BOOT & SHOE CO., Retail Store 415 Main Street. See Advt.

SLIPPERS.

Shoes and Slippers, Barefoot Sandals. Felt footwear a specialty. WORCESTER SLIPPER CO., J. P. Grosvenor, Prop., 370 Park Avenue.

STAMPINGS.

Worcester Pressed Steel Co., North Ave.; take Barber's Crossing car. Light and heavy Stampings in all metals.

STEAM AND GAS FITTERS.

Braman, Dow & Co., Contractors for Heating Apparatus, Steam, Water or Vapor. Mill Piping a specialty. 7 Washington Square.

STEAM AND GAS SUPPLIES.

Leading Makes of steam and hot water heaters. CENTRAL SUPPLY CO., 35 Waldo Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

STEAMSHIP LINES.

Steamship Lines—UNITED FRUIT CO.'S trips to Jamaica. See Adv.

SUIT CASES AND BAGS.

Largest and best variety, up-to-date in every respect. WARREN LEATHER GOODS CO.

TACKS AND NAILS.

Shoe Tacks. Hungarian Nails. Hob Nails. P. E. SOMERS, 17 Hermon Street, Worcester, Mass.

TAXIDERMIST.

Chas K. Reed, Naturalists' S pplies. 75 Thomas Street, corner Union, Worcester Mass.

VALENTINES.

Valentines, Holiday Goods, Easter Novelties. THE GEO. C. WHITNEY CO., 67 Union Street, Worcester.

WATER METERS.

The Best Known Meter. UNION WATER METER CO., Hermon Street. See Advt.

WIRE FLY KILLER.

Bigelow Wire Fly Killer. It kills but does not crush the fly. J. F. BIGELOW, 11 Foster Street.

WIRE GOODS.

Wire of all Kinds. SPENCER WIRE CO., Worcester and Spencer. See Advt.

Wire Goods and Wire Novelties. WORCESTER WIRE GOODS CO. See Advt.

Wire, wire cloth and poultry netting. WRIGHT WIRE CO., Worcester and Palmer. See Advt.

WOOL-SPINNING MACHINERY.

Johnson & Bassett, Wool-Spinning Machinery. 114 Foster Street, Worcester, Mass.

BANKS.

WORCESTER NATIONAL BANK, 9 Foster Street. Incorporated as a State Bank in 1804; as a National Bank in 1864. Capital $250,000; surplus and undivided profits $321,508.72. Dividends April and October; rate past year, 8 per cent. President, James P. Hamilton; Cashier, Samuel D. Spurr; Assistant Cashier, F. M. Hedden; Directors, A. George Bullock, Charles A. Chase, James P. Hamilton, Lincoln N. Kinnicutt, Edward L. Davis, George F. Brooks, Paul B. Morgan, Reginald Washburn, Matthew J. Whittall.

WORCESTER TRUST COMPANY, 344 Main Street. Incorporated in 1868. Capital $500,000; surplus $500,000. Dividends January, April, July, and October; rate past year, 6 per cent. William D. Luey, President; Henry A. Marsh, Nathaniel Paine, Henry P. Murray, Vice Presidents; Samuel H. Clary, Treasurer; Alvin J. Daniels, Secretary; Chairman of Board of Directors, Henry A. Marsh; Directors, Charles S. Barton, Geo. F. Blake, A. George Bullock, John H. Coes, Alexander DeWitt, Thomas B. Eaton, William Endicott, Jr., Henry F. Harris, Rockwood Hoar, C. Henry Hutchins, Lincoln N. Kinnicutt, Edwin T. Marble, J. Russel Marble, Neal Rantoul, Wm. H. Sawyer, Frank Bulkeley Smith, E. D. Thayer, Chas. M. Thayer, Robert M. Washburn, George W. Wells, M. J. Whittall, G. Marston Whitin, Charles A. Williams, Robert Winsor.

PEOPLE'S SAVINGS BANK, 452 Main Street. Incorporated in 1864. Deposits February 1st, $11,450,000. Guaranty Fund $540,000. Number of depositors 24,234. Deposits put upon interest February, May, August and November 1st. Dividends payable February and August 2nd and added to the principal as of the 1st of those months if not withdrawn. President, Samuel R. Heywood; Treasurer, Charles M. Bent; Assistant Treasurer, Frederick W. White; Investment Committee, Samuel R. Heywood, Edwin T. Marble, Henry M. Harris, Charles M. Thayer, Alexander DeWitt.

THE WORCESTER MECHANICS SAVINGS BANK, Worcester, Mass. Organized, 1851. Officers: President, A. B. R. Sprague; Vice Presidents, John H. Coes, Thomas B. Eaton, Eli J. Whittemore; Treasurer, Frank W. Cutting; Trustees, A. B. R. Sprague, Thomas B. Eaton, Thomas G. Kent, Eli J. Whittemore, John H. Coes, Francis H. Dewey, Chas. A. Hill, Chas. F. Hanson, Geo. E. Merrill, Levis G. White, Francis W. Blacker, Henry S. Pratt, Arthur P. Rugg, Chas. D. Lamson.

WORCESTER FIVE CENTS SAVINGS BANK, 314 Main Street. Incorporated, April 1, 1854. Assets, $10,473,732.59; number of depositors, 34,421. Deposits received from five cents to $1000 and placed on interest January, April, July and October. Dividends payable on and after January 15 and July 15. President, Henry M. Witter; Vice Presidents, Simeon N. Story, Gilbert J. Rugg, Edwin Brown, Roger F. Upham, Otis E. Putnam, James Draper; Treasurer, J. Stewart Brown.

WORCESTER COUNTY INSTITUTION FOR SAVINGS, 13 Foster Street. Incorporated, February 5, 1828. Deposits, $19,014,022; assets, $20,414,156; number depositors, 39,955. Deposits put on interest January, April, July and October. Dividends payable January 15 and July 15. President, Chas. A. Chase; Vice Presidents, Edward L. Davis, Geo. E. Francis, Thos. H. Gage; Treasurer, Alfred L. Aiken; Board of Investment, Chas. A. Chase, Sam'l B. Woodward, Geo. E. Francis, Lyman A. Ely, A. George Bullock; Clerk of Corporation, Chas. F. Aldrich.

The Old Family Wine Store

SOLE MANUFACTURERS OF

G. F. H. PRIVATE STOCK WHISKEY

and

Cold Blast Ginger Ale

Write for Price List

GEO. F. HEWETT CO.

Established 1860
Telephone 2455

41, 43, 45 Waldo St., Worcester, Mass.

Boston & Albany RAILROAD
N. Y. C. & H. R. R. R., LESSEE.

NEW YORK CENTRAL LINES

Sleeping Car Service Between Worcester and New York City

Via Boston & Albany R. R., over "Springfield Line."

Sleeper is placed in the Depot at 10.30 p.m., and may be occupied at that time; leaves 12.44 midnight; due New York City at 6.45 a.m.; sleeper will remain in Grand Central Station until 7 o'clock.

Returning Sleeper is placed in Grand Central Station 10 p.m., and may be occupied at that time; leaves at 11.03 p.m. Will be sidetracked at Worcester so that passengers may remain in car until 7 a.m. if desired.

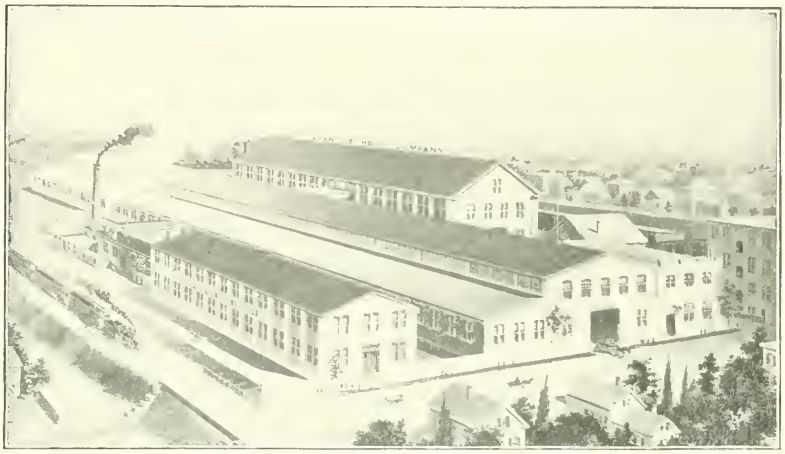
10 TRAINS A DAY leave Worcester via New York Central Lines, as follows: 6.24, 9.40, 11.23, 11.55 a.m.; 1.04, 3.09, 4.39, 7.10, 9.09 p.m.; 1.17 a.m.

For reservations call on W. U. Bixby, Ticket Agent, Union Station.
S. S. Van Etten, City Ticket and Passenger Agent, 385 Main Street, Worcester.
A. S. HANSON, General Passenger Agent, Boston.

In writing to advertisers, please mention the Worcester Magazine.

PRENTICE BROS. COMPANY,

WORCESTER, MASS.



BUILDERS OF

DRILLING MACHINES AND ENGINE LATHES.

COATES CLIPPERS

Coates Hair Clippers and flexible transmission.

COATES CLIPPER MFG. CO., WORCESTER, MASS.

MATTHEWS MANUFACTURING COMPANY,

MANUFACTURERS OF

STOVE TRIMMINGS,
BALL BEARINGS,

Steam-Pipe Collars,
Ferrules and
Sheet Metal Specialties.

104 Gold Street, Worcester, Mass.
A. T. MATTHEWS, Treasurer.

OUR NEW EQUIPMENT

Of Type and Fast Machines for HIGH GRADE PRINTING has been pronounced by experts to be one of the best in New England. We can please you in quality and price.

Commonwealth Press

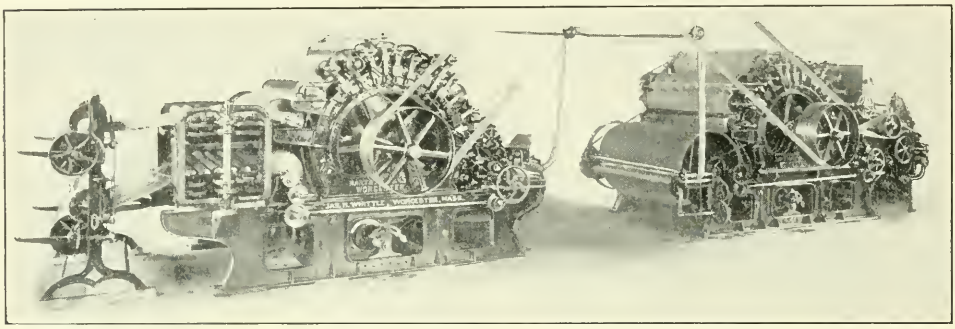
O. B. WOOD
50 Foster Street, Worcester

The Twentieth Century Henderson Double Carding Process

Manufactured by JAMES H. WHITTLE

From Union Depot take Fitchburg cars that run on the hour and half hour, or get transfer at City Hall for Barber's Crossing or Brittan Square Cars, that run every 7½ minutes.

150 Harlow St., Worcester, Mass.



This cut represents the latest and most improved Carding Machine for carding woolens, worsteds, etc. By this process a Two-card Set will give more even work, better mixing, better carding, and as much carding as any Three-card Set now manufactured This can be furnished in Three-card sets if required. By using this carding device about one-third of the space is saved, one third of the power, and the Cards are sold for less money than a Three-card Set With a Two-card Set, on the Breaker we get 8 Workers and on the Finisher 6 Workers, which makes 14 Workers against 17 in the regular way.

The Workers on these Cards run in pairs. The first Worker does no carding, as it runs point to point with the clothing on the main cylinder. This simply holds the stock while the main cylinder draws the staple out to its fullest length. It is then passed to the second Worker, which cards it, and what does not pass by this Worker is carried back by the Upper Stripper to the first Worker of the pair and recombed, and then returns to the second Worker, following through this process until it is thoroughly carded. The next set of workers is set slightly closer, and goes through the same operation.

In one set of these Cards there are 42 Carding Points against 17 Carding Points in a Three-card Set, giving far superior Carding to any Three-card Set now running.

We make these Cards the following sizes:

48″ and 60″ x 48″, either wood or iron Cylinders, which carries 14 Workers and 14 Strippers; 48″ and 60″ x 60″, which carries 18 Workers and 18 Strippers. Where not otherwise specified, we always put on a 30″ Iron Doffer on Breaker and 12″ Ring Doffers on the Finisher.

If you are in the market for Cards it will pay you to look into this.

JAMES H. WHITTLE.

Bay State House.

American and .. .. European Plan

C. W. RIPLEY, Proprietor .·. WORCESTER, MASS.

H. HODGSON, Pres. and Treas. *FRED HODGSON, Gen. Mgr.*

Queensbury Mills

Worcester, Mass.

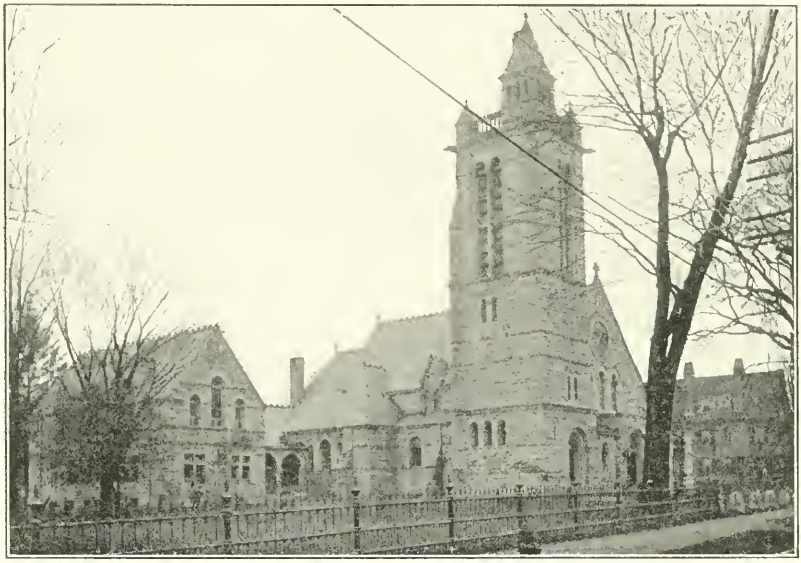
Manufacturers of Mohair and Worsted Yarns.

HAMMOND REED COMPANY

MANUFACTURERS OF

Organ Reeds, Reed Boards and other Organ Supplies

Telegraph and Cable Address, "Reeds." Worcester, Mass., U. S. A. **WORCESTER, MASS.**



ST. JOHN'S CHURCH, NORTHAMPTON, MASS.
The Norcross Brothers Co., Builders, Worcester, Mass.

THE ONLY GROUND FLOOR PRINTING OFFICE IN THE CITY

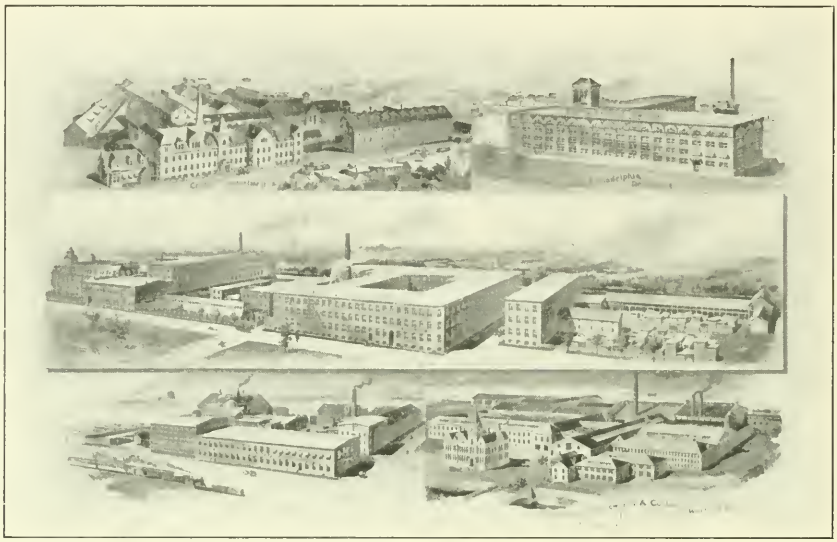
The Blanchard Press WORCESTER MASS.

TROUBLES ALL OVER

If you put your commissions in our hands your Advertising Troubles will all be over. We are Catalogue and Booklet Builders from start to finish. You can get rid of that worried look if you say the word to

The Blanchard Press
Six Walnut Street
Worcester, Mass.

LOOMS and REPAIRS



CROMPTON & KNOWLES LOOM WORKS

Worcester Providence Philadelphia

The Smith, Green Company

R. C. CLEVELAND, President and Treasurer

Office, Yards and Warehouses: 32 Bloomingdale Road, Worcester, Mass.

Wholesale and Retail Builders' Supplies

PROPRIETORS OF

Elastic Pulp Plaster Manufacturing Company

Manufacturers of

ELASTIC PULP PLASTER

The only perfect Wall Plaster in the world

For Statistics of Worcester and List of Things Made

Write to the SECRETARY BOARD OF TRADE

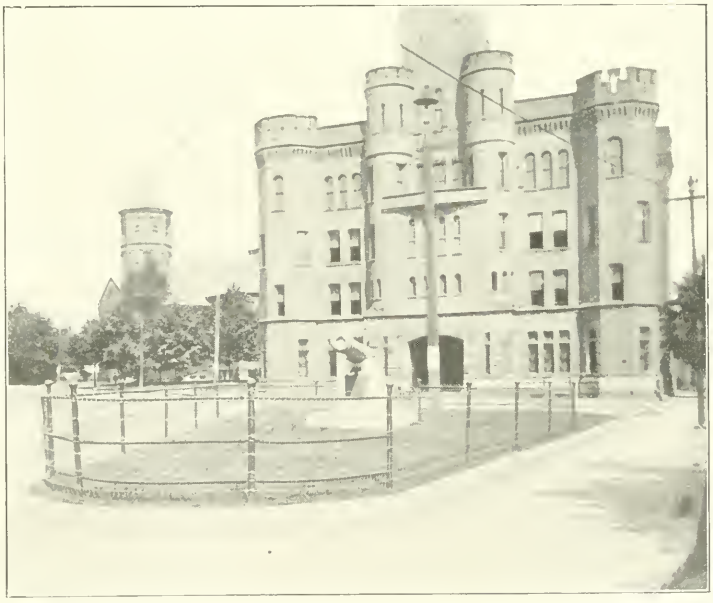
The Worcester Magazine

Vol. IX. CONTENTS FOR MAY, 1906. No. 5

Frontispiece. Worcester Polytechnic Institute Hydraulic Testing Plant.
Magazine and Municipal Comment.
Disappointment Turned to Rejoicing, 91
Congress for Free Alcohol, - - 91
Worcester County Indian Names, - 92
The Right to Work, - - - 92
The Man with the Muck-Rake, - 93
To Beautify their City, - - - 93
Subscription from Board of Trade, - 93
Worcester's Manufacturing Census, 94
What a Board of Trade Can Do, - 94
Massachusetts' Mercantile Census, 95
Made in Worcester, - - - 96
Worcester's Helping Hand Extended, 96
The Hydraulic Testing Plant of the Worcester Polytechnic Institute. By Levi P. Conant, - - - 97
Worcester County Indian Names, - 102
Board of Trade Annual Banquet, - 106
Board of Trade Notes, - - - 110

Published monthly by the Worcester Board of Trade, 11 Foster Street, Worcester, Mass. Committee on Publication, Rufus B. Fowler, G. Stanley Hall, Irving E. Comins, Milton P. Higgins, George W. Mackintire. Terms $1.00 a year; single copies, 10 cents. For sale by newsdealers. Entered at the Post Office, Worcester, Mass., as second-class matter, May 10, 1901.

ORNAMENTAL and SPECIAL FENCING
WIRE and WROUGHT IRON

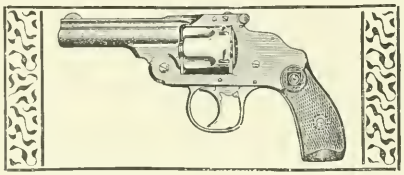


No. 6 Anchor Fence at Santiago Monument, Worcester Armory.
FLOWER BED GUARD, TREE GUARDS, TRELLIS.
N. E. ANCHOR FENCE CO., Dept. of Spencer Wire Co.,
91 Webster St. Worcester, Mass. Tel 2665.

In writing to advertisers, please mention the Worcester Magazine.

That Office Help Is a source of continual anxiety to the business man unless he has the best. Poor help costs more than good help does. **Becker's Business College** has turned out the best class of help employed in Worcester. When in need of such help send to Becker's—the school giving the strongest business training in New England.

Telephone 378-3 **E. C. A. BECKER, Prop.**



Established 1871. Incorporated 1888.

HARRINGTON & RICHARDSON ARMS CO.,

Manufacturers of

FIREARMS.

Descriptive Catalogue on request. WORCESTER, MASS., U. S. A.

U.S. ENVELOPE CO. USE SPRINGFIELD MASS.

Logan, Swift & Brigham

ENVELOPE CO. DIVISION

Worcester, Massachusetts

MANUFACTURERS OF STANDARD

... Envelopes ...

The Outlook Envelope

Insures economy and absolute accuracy in the addressing of all your mail matter.

The Improved Columbian Clasp Envelope

The best and most satisfactory Merchandise Envelope made.

Specialists in STEEL DIE STAMPING

for Commercial Work. Samples and Prices of our Standard Goods furnished by your Stationer or Printer.

Worcester Has More Than 1100 Manufacturing Plants

Employing 26,000 Wage Earners

Its Annual Pay-roll is $13,000,000

The Value of Products annually produced is upward of $54,000,000

Write the Board of Trade for Particulars

In writing to advertisers, please mention the Worcester Magazine.

Established 1854

Hudson Belting Co.

Manufacturers of

Stretched Oak Tanned

LEATHER BELTING

Round, Twisted and Solid Belting, Strapping, Lacing, Rubber Belting. Special Belts for Dynamos. Hudson's Extra English Black. Also Wood Pulleys.

OFFICE AND FACTORY:

Eaton Place, WORCESTER, MASS.

"On Time" our watchword

Machine Jobbing, Special Machinery, Patents perfected and

Automobiles

repaired and stored

DAWSON MACHINE CO.

Telephone 2 Sargent Street

"Everything in Wire"

We manufacture from steel and brass wire a salable line of Hardware and Kitchen Goods Specialties, Belt Hooks; Universal, Jack and Plumbers' Chains; Coat and Hat Hooks; Garment Hangers; Blind Fixtures; Kitchen Wire Goods; Wire Nails, Tacks and Staples. Our line on sale at all Hardware and Department Stores. Special Goods made to order from wire.

***The* Wire Goods Company**

WORCESTER, MASSACHUSETTS

Norton Emery Wheel Company

AWARDED

TWO GRAND PRIZES

TWO GOLD MEDALS

For NORTON PRODUCTS at St. Louis Exposition

GRINDING WHEELS
ALUNDUM ABRASIVE

GRINDING MACHINERY
INDIA OIL STONES

Highest Awards in all Classes

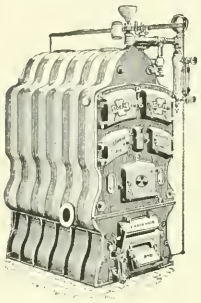
Plunger Elevator Co.,

Safe, Long-Lived, Economical, High-Speed Passenger Elevators a Specialty. . . . . .

Hydraulic Plunger
ELEVATORS.

OFFICE AND FACTORY.

BARBER'S, WORCESTER, MASS



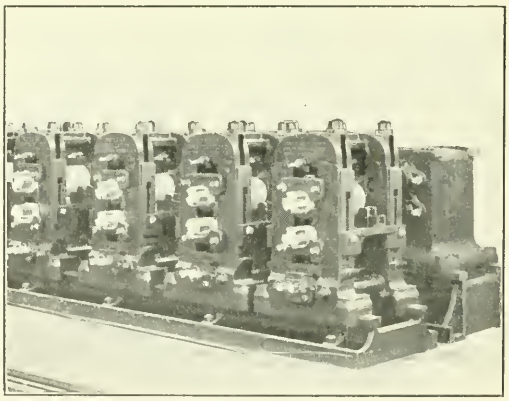
IDEAL BOILERS

Guarantee

Liberal Warmth, Economy of Fuel

Many people say so from experience.
Made in large variety of sizes to suit any requirement.

THE SINCLAIR CO., 28 Pearl Street, Worcester



MORGAN CONTINUOUS ROLL TRAIN.

Continuous Rolling Mills

Continuous Heating Furnaces

Continuous Gas Producers

Wire Mill Machinery

MORGAN CONSTRUCTION COMPANY

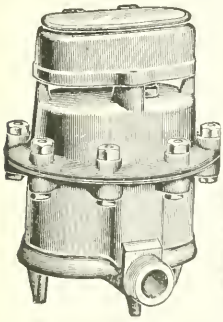
WORCESTER, MASS.

New York Office:
40 EXCHANGE PLACE

European Office:
52 RUE DE CONGRES, BRUSSELS

Half Tones
WOODBURY-CARLTON CO
made at No. 4 Walnut St.

UNION WATER METER CO.,



BENJAMIN F. OTIS, Pres. and Manager.
EDW. P. KING, Treas. and Supt.

Water Meters.

WORCESTER, MASS.

WORCESTER MACHINE SCREW CO.,

STANDARD SCREW CO. SUCCESSORS.

MANUFACTURERS OF

SET, CAP AND MACHINE

SCREWS

IN IRON, STEEL AND BRASS.

STUDS FOR STEAM ENGINES, PUMPS, ETC.

WORCESTER, MASS.

HATCH & BARNES CO.,

MANUFACTURERS OF

Doors, Sash, Blinds

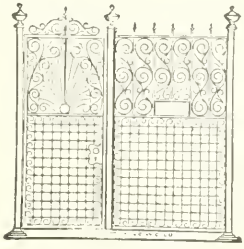
AND FINE BUILDERS' FINISH.

Practical Stair Builders. Newels, Balusters and Rails constantly on hand and made to order. Wood Turning a specialty.

Office, 196 Union Street, WORCESTER, MASS.

WRIGHT WIRE CO.

WIRE AND WIRE CLOTH



WIRE GUARD WORK.

Elevator Cabs and Enclosures

Coal Screens and Riddles.

POULTRY NETTING.

WORCESTER, MASS PALMER, MASS

Duncan & Goodell Co.,

WHOLESALERS AND RETAILERS IN

Hardware and Cutlery.

We have the finest line of Table and Pocket Cutlery, also highest grade of Scissors, including all kinds from Finest Manicure Scissors to Tailors' Shears, to be seen in Worcester.

We make a specialty of Builders' Hardware and Supplies, and carry in stock a large line of best quality door and window trimmings.

404 Main Street, Cor. Pearl.

JAMAICA WHERE SUMMER IS 12 MONTHS LONG

Nowhere can winter be spent so delightfully

THE UNITED FRUIT COMPANY'S
Steel Twin-Screw U. S. Mail Steamships

Sailings Weekly from Boston, Philadelphia and Baltimore

Round Trip Fare, $75 including meals and berth in stateroom Single Fare, $40

Write for Jamaica Literature describing and illustrating the Island and tours of interest. Address General Passenger Agent

UNITED FRUIT COMPANY

Long Wharf, Boston.

UNITED FRUIT COMPANY

Or call on either of the following Worcester Agents:

J. F. HEALY, 396 Main St. O. F. RAWSON, 391 Main St.
S. S. VAN ETTEN, 385 Main Street.

WORCESTER BUSINESS DIRECTORY.

MANUFACTURERS AND DEALERS.

AGRICULTURAL IMPLEMENTS.

Worcester Kemp Manure Spreader, Buckeye Mower, Bullard Hay Tedder, Worcester Rake. RICHARDSON MANUFACTURING CO., 84 Prescott St., Worcester.

ARCHITECTS.

George H. Clemence, Architect, Walker Building, Room 205, 405 Main Street, Worcester, Mass.

Stephen C. Earle, Architect, Room 45, Burnside Building, 339 Main Street, Worcester, Mass.

Fuller & Delano Company, Architects, 452 Main St. Worcester, Mass. Ward P. Delano, Robt. L. Fuller

Clellan Waldo Fisher, Architect. Office, 718 State Mutual Building, Worcester.

Frost, Briggs & Chamberlain, Architects, Offices 518 Main Street, Knowles Building, Worcester, Mass.

ASH SIFTERS.

"Hustler" Ash Sifter. HILL DRYER CO., 340-350 Park Avenue, Worcester, Mass.

BALL BEARINGS.

Worcester Pressed Steel Co., North Ave.: take Barber's Crossing Car. Automobile and Bicycle Parts. Metal Stampings.

BANKS.

People's Savings Bank, 452 Main Street. See Advt.

Worcester County Institution for Savings, 13 Foster St. See Advt.

Worcester Five Cents Savings Bank, 344 Main St. See Advt.

Worcester Mechanics Savings Bank, 311 Main St. See Advt.

Worcester National Bank, 9 Foster Street. See Advt.

Worcester Trust Co., 448 Main Street. See Advt.

BELTING.

Oak tanned leather belting always in stock. GRATON & KNIGHT MFG. CO., Bloomingdale Road. See Advt.

Pure Oak Bark Tanned Leather Belting. Special Waterproof Belting, "B. & F." Belting, Dynamo Belts and other specials. Mill Supplies. J. F. & W. H. WARREN CO., 44 Vine Street, Worcester, Mass.

BLACKSMITHS.

Common Sense Shoeing Forge. JOHN J. GRADY, 162 Mechanic Street. Tel. 1028-6.

BOILERS.

The Sinclair Co. Ideal boilers. 28 Pearl St. See Advt.

BOLTS AND NUTS.

Bolts, cold punched nuts and washers, die making and metal punching. THOMAS SMITH CO., Frank W. Foye, 14 Cypress Street.

BOOK BINDERY.

Book Binders and Paper Rulers. J. S. WESBY & SONS, 387 Main Street and 50 Foster Street.

BUILDERS' FINISH.

Doors, sash, blinds, and fine builders' finish. HATCH & BARNES CO., 196 Union Street. See Advt.

BUILDERS' SUPPLIES.

Builders' Supplies. SMITH, GREEN CO., 32 Bloomingdale Road. See Advt.

BUSINESS COLLEGES.

Bookkeepers, stenographers and typewriters. BECKER'S BUSINESS COLLEGE, 492 Main St. See Advt.

Business Men when in need of carefully trained Bookkeepers and Stenographers apply to C. B. POST, WORCESTER BUSINESS INSTITUTE, 476 Main Street.

CALENDARS.

Advertising Calendars, Blotters, Circulars, Booklets, Mailing Cards, Etc. PROGRESS PUB. CO., 377 Main St.

CARDING MACHINERY.

Twentieth Century Henderson Double Carding Process. J. H. WHITTLE, 150 Harlow Street. See Advt.

CHAINS.

Jack Chains, Ladder Chains, all kinds of Metal. HALE BROTHERS COMPANY, 42 Lagrange Street.

CLOTHES DRYERS.

For Lawn, Balcony or Roof. HILL DRYER CO., 340 to 350 Park Avenue, Worcester, Mass.

CONTRACTORS AND BUILDERS.

Builders of public, commercial and manufacturing buildings and private residences. J. W. BISHOP CO., Worcester, Boston, Providence, New York.

E. J. Cross, General Contractor. Estimates furnished on any class of buildings. Office, 82 Foster Street, Worcester.

Public and mercantile buildings a specialty. THE NORCROSS BROS. CO. See Advt.

CUT GLASS WORKS.

Rich Cut Glass. Factory and Salesroom, 17 Hermon Street. WILLIAM TAIT, Proprietor.

DECORATORS AND PAINTERS.

Artistic frescoing and decorating of churches, halls and residences, sign and house painting. SANDGREN & EHNBORG, 274 Main Street. Tel. 983-4.

ELECTRICAL ENGINEERS AND CONTRACTORS.

Electrical Contractors and Dealers in Supplies. We install Dynamos and Motors, Telephones, Lighting, Etc. PAGE ELECTRIC CO., 24 Pearl Street.

Electrical Supplies, construction Automatic Telephone Systems. PLUMMER, HAM & RICHARDSON, 619 Main Street.

ELECTRIC LIGHT AND POWER.

Electric Light and Power supplied by WORCESTER ELECTRIC LIGHT COMPANY, 66 Faraday Street, Worcester, Mass.

ELEVATORS.

Hydraulic plunger elevators. PLUNGER ELEVATOR CO., Barber's. See Advt.

EMERY WHEELS.

Grinding Wheels, grinding machinery and India oil stones. NORTON EMERY WHEEL CO. See Advt.

ENGRAVING.

Half-Tone Work done artistically. WOODBURY-CARLTON CO., 4 Walnut Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

ENGINE LATHES.

Drilling Machines and engine lathes. PRENTICE BROTHERS, Cambridge Street. See Advt.

ENGINEERS.

Mill Buildings, Steel, Concrete Construction; Power Installations, THOMPSON & GALLAGHER, 339 Main St.

ENVELOPE MANUFACTURERS.

Envelopes and Envelope Specialties. LOGAN, SWIFT & BRIGHAM DIVISION. See Adv.

FIREARMS.

Guns and pistols of all kinds. HARRINGTON & RICHARDSON ARMS CO., Park Avenue. See Advt.

FOUNDRIES.

Light and heavy Iron Castings. JACKSON STREET FOUNDRY, J. A. Colvin, Prop., 52 Jackson Street.

GAS ENGINES.

Greendale Gas Engine Co., manufacturers of Gas and Gasoline Engines. S. F. BURLINGAME, Manager. Shop 'Phone 1063-2.

HARDWARE.

Wholesale and retail dealers in hardware and cutlery. DUNCAN & GOODELL CO., 404 Main Street. See Advt.

HEATING CONTRACTORS.

Ideal Boilers, steam and water. THE SINCLAIR CO., 28 Pearl Street. See Advt.

Acetylene Lighting—Plants installed. THE SINCLAIR CO., 28 Pearl Street. See Advt.

HOTEL.

Bay State House, European plan. C. W. RIPLEY, proprietor. See Advt.

IRON AND STEEL.

Supplies for blacksmiths, carriage-makers. GEO. F. BLAKE, JR., & CO. Office and storehouse Mechanic and Foster Streets. Tel. 2508-2509.

IRON FOUNDERS.

High Grade Machinery Castings. STANDARD FOUNDRY CO., Tainter Street. See Advt.

INSURANCE.

General insurance agency. CHARLES E. GRANT, Rooms 711 and 712 State Mutual Building.

Life Policies. STATE MUTUAL LIFE ASSURANCE CO. See Advt.

LEATHER AND CANVAS GOODS.

Suit Cases and Bags, Toilet Cases, Music Goods, Etc. WARREN LEATHER GOODS CO., 80 Austin Street.

LEATHER BELTING.

Hudson's extra oak-tanned Leather Belting always in stock. HUDSON BELTING CO., Eaton Place. See Advt.

LOOMS AND REPAIRS.

Looms and Repairs. CROMPTON & KNOWLES LOOM WORKS. See Advt.

LUMBER.

W. H. Sawyer Lumber Co. Hard Pine Timber a specialty. All kinds Finish constantly in kiln.

Stone & Foster Lumber Co., Central and Union Sts. General line of lumber, wholesale or retail.

MACHINE JOBBING.

Machine Jobbing, Special Machinery, Patents perfected. DAWSON MACHINE CO., 2 Sargent Street. See Advt.

MACHINE SCREWS.

Machine Screws in iron, steel and brass. WORCESTER MACHINE SCREW CO., Beacon Street. See Advt.

MACHINISTS' TOOLS.

Planers a specialty, Machine Tools, Lathes and Drills. J. S. WHEELER & CO., 23 Hermon Street.

Lathes, Punches and Shears. W. C. YOUNG, 17 Hermon Street.

METAL SPECIALTIES.

Stove Trimmings, steampipe collars and ferrules. MATTHEWS MFG. CO., 104 Gold Street. See Advt.

MILL SUPPLIES.

Crawford & Co., 665 Main Street. Everything in Mill Supplies, Wool Stock, Cotton and Cotton Waste.

MOHAIR YARNS.

Manufacturers of Mohair and Worsted Yarns. QUEENSBURY MILLS, Worcester, Mass. See Advt.

OVERALLS.

Overalls, Shirts, Frocks, Etc. A. G. HILDRETH, 25 Hermon Street, Worcester, Mass.

PAINTS AND OILS.

Painters' Supplies and Lubricating Oils. F. M. HEATH & CO., 40 Southbridge St., opp. Post Office.

PATENT CURTAIN RODS.

Adjustable Curtain Rods and Sockets. FOWLER & CO., 65 Beacon Street, Worcester, Mass.

PRINTING.

Good Printing quickly executed. F. S. BLANCHARD & CO., 6 Walnut Street. See Advt.

Printing and Engraving, HURLEY'S PRINTERY, 38 and 44 Front Street.

Posters, Show Cards, Theatrical and Commercial Printing. C. R. STOBBS, 16 Mechanic Street.

Commercial Printing and Blank-book Work. O. B. WOOD, 50 Foster Street. See Advt.

RAILROADS.

Boston & Albany division of N. Y. C. & H. R. R. R. See Advt.

RAZORS.

Manufacturers of all styles, including Safety Razors. J. R. TORREY RAZOR CO., Chandler Street.

REEDS.

Organ Reeds and Reed Boards. HAMMOND REED CO., Worcester, Mass. See Advt.

RAZOR STROPS.

Manufacturers of all styles of Strops, also Stropping Machine. J. R. TORREY & CO., Chandler Street.

ROLLING MILLS.

Continuous Rolling Mills, Gas Producers and Wire Mill Machinery. MORGAN CONSTRUCTION CO. See Adv.

SHOE MANUFACTURERS.

Heywood, the Worcester made Shoe. HEYWOOD BOOT & SHOE CO., Retail Store 415 Main Street. See Advt.

SLIPPERS.

Shoes and Slippers, Barefoot Sandals. Felt footwear a specialty. WORCESTER SLIPPER CO., J. P. Grosvenor, Prop., 370 Park Avenue.

STAMPINGS.

Worcester Pressed Steel Co., North Ave.; take Barber's Crossing car. Light and heavy Stampings in all metals.

STEAM AND GAS FITTERS.

Braman, Dow & Co., Contractors for Heating Apparatus. Steam, Water or Vapor. Mill Piping a specialty. 7 Washington Square.

STEAM AND GAS SUPPLIES.

Leading Makes of steam and hot water heaters. CENTRAL SUPPLY CO., 35 Waldo Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

STEAMSHIP LINES.

Steamship Lines—UNITED FRUIT CO.'S trips to Jamaica. See Adv.

SUIT CASES AND BAGS.

Largest and best variety, up-to-date in every respect. WARREN LEATHER GOODS CO.

TACKS AND NAILS.

Shoe Tacks, Hungarian Nails, Hob Nails. P. E. SOMERS, 17 Hermon Street, Worcester, Mass.

TAXIDERMIST.

Chas K. Reed, Naturalists' Supplies. 75 Thomas Street, corner Union, Worcester Mass.

VALENTINES.

Valentines, Holiday Goods, Easter Novelties. THE GEO. C. WHITNEY CO., 67 Union Street, Worcester.

WATER METERS.

The Best Known Meter. UNION WATER METER CO., Hermon Street. See Advt.

WIRE FLY KILLER.

Bigelow Wire Fly Killer. It kills but does not crush the fly. J. F. BIGELOW, 11 Foster Street.

WIRE GOODS.

Wire of all Kinds. SPENCER WIRE CO., Worcester and Spencer. See Advt.

Wire Goods and Wire Novelties. WORCESTER WIRE GOODS CO. See Advt.

Wire, wire cloth and poultry netting. WRIGHT WIRE CO., Worcester and Palmer. See Advt.

WOOL-SPINNING MACHINERY.

Johnson & Bassett, Wool-Spinning Machinery. 114 Foster Street, Worcester, Mass.

BANKS.

WORCESTER NATIONAL BANK, 9 Foster Street. Incorporated as a State Bank in 1804; as a National Bank in 1864. Capital $250,000; surplus and undivided profits $321,508.72. Dividends April and October; rate past year, 8 per cent. President, James P. Hamilton; Cashier, Samuel D. Spurr; Assistant Cashier, F. M. Hedden; Directors, A. George Bullock, Charles A. Chase, James P. Hamilton, Lincoln N. Kinnicutt, Edward L. Davis, George F. Brooks, Paul B. Morgan, Reginald Washburn, Matthew J. Whittall.

WORCESTER TRUST COMPANY, 344 Main Street. Incorporated in 1868. Capital $500,000; surplus $500,000. Dividends January, April, July, and October; rate past year, 6 per cent. William D. Luey, President; Henry A. Marsh, Nathaniel Paine, Henry P. Murray, Vice Presidents; Samuel H. Clary, Treasurer; Alvin J. Daniels, Secretary; Chairman of Board of Directors, Henry A. Marsh; Directors, Charles S. Barton, Geo. F. Blake, A. George Bullock, John H. Coes, Alexander DeWitt, Thomas B. Eaton, William Endicott, Jr., Henry F. Harris, Rockwood Hoar, C. Henry Hutchins, Lincoln N. Kinnicutt, Edwin T. Marble, J. Russel Marble, Neal Rantoul, Wm. H. Sawyer, Frank Bulkeley Smith, E. D. Thayer, Chas. M. Thayer, Robert M. Washburn, George W. Wells, M. J. Whittall, G. Marston Whitin, Charles A. Williams, Robert Winsor, A. W. Parmelee, A. O. Young.

PEOPLE'S SAVINGS BANK, 452 Main Street. Incorporated in 1864. Deposits February 1st, $11,450,000. Guaranty Fund $540,000. Number of depositors 24,234. Deposits put upon interest February, May, August and November 1st. Dividends payable February and August 2nd and added to the principal as of the 1st of those months if not withdrawn. President, Samuel R. Heywood; Treasurer, Charles M. Bent; Assistant Treasurer, Frederick W. White; Investment Committee, Samuel R. Heywood, Edwin T. Marble, Henry M. Harris, Charles M. Thayer, Alexander DeWitt.

THE WORCESTER MECHANICS SAVINGS BANK, Worcester, Mass. Organized, 1851. Officers: President, A. B. R. Sprague; Vice Presidents, John H. Coes, Thomas B. Eaton, Eli J. Whittemore; Treasurer, Frank W. Cutting; Trustees, A. B. R. Sprague, Thomas B. Eaton, Thomas G. Kent, Eli J. Whittemore, John H. Coes, Francis H. Dewey, Chas. A. Hill, Chas. F. Hanson, Geo. E. Merrill, Levis G. White, Francis W. Blacker, Henry S. Pratt, Arthur P. Rugg, Chas. D. Lamson.

WORCESTER FIVE CENTS SAVINGS BANK, 314 Main Street. Incorporated, April 1, 1854. Assets, $10,473,732.59; number of depositors, 34,421. Deposits received from five cents to $1000 and placed on interest January, April, July and October. Dividends payable on and after January 15 and July 15. President, Henry M. Witter; Vice Presidents, Simeon N. Story, Gilbert J. Rugg, Edwin Brown, Roger F. Upham, Otis E. Putnam, James Draper; Treasurer, J. Stewart Brown.

WORCESTER COUNTY INSTITUTION FOR SAVINGS, 13 Foster Street. Incorporated, February 5, 1828. Deposits, $19,014,022; assets, $20,414,156; number depositors, 39,955. Deposits put on interest January, April, July and October. Dividends payable January 15 and July 15. President, Chas. A. Chase; Vice Presidents, Edward L. Davis, Geo. E. Francis, Thos. H. Gage; Treasurer, Alfred L. Aiken; Board of Investment, Chas. A. Chase, Sam'l B. Woodward, Geo. E. Francis, Lyman A. Ely, A. George Bullock; Clerk of Corporation, Chas. F. Aldrich.

The Old Family Wine Store

SOLE MANUFACTURERS OF

G. F. H. PRIVATE STOCK WHISKEY

and

Cold Blast Ginger Ale

Write for Price List

GEO. F. HEWETT CO.

Established 1860
Telephone 2455

41, 43, 45 Waldo St., Worcester, Mass.

Boston & Albany RAILROAD
N. Y. C. & H. R. R. R., LESSEE.

NEW YORK CENTRAL LINES

"Summer Homes on the Boston & Albany R. R."

Is the title of a 48-page illustrated and descriptive folder issued by the Passenger Department of the Boston & Albany Railroad, containing a complete list of Hotels and Summer Boarding Houses along the line of that road in the BERKSHIRE HILLS District.

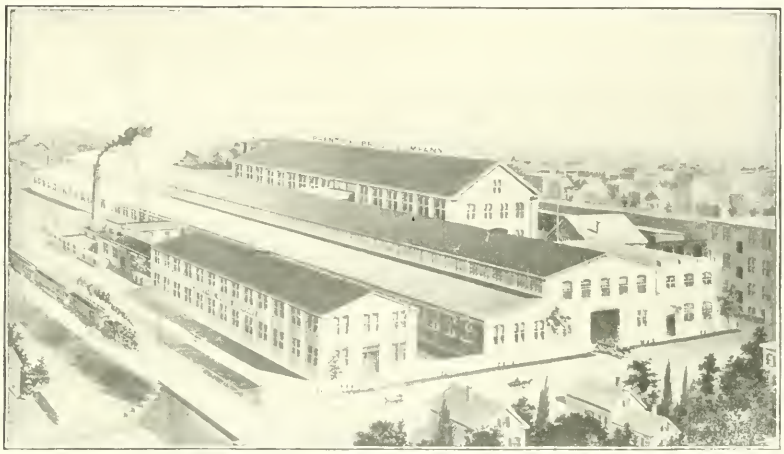
It is richly illustrated with half-tone cuts of mountains, lakes, waterfalls, stage-roads, etc., and all prospective summer tourists will find it most interesting. A copy may be secured by addressing the undersigned.

S. S. Van Etten, City Ticket and Passenger Agent,
385 Main Street, Worcester.

A. S. HANSON, General Passenger Agent, Boston.

PRENTICE BROS. COMPANY,

WORCESTER, MASS.



BUILDERS OF

DRILLING MACHINES AND ENGINE LATHES.

COATES CLIPPERS

Coates Hair Clippers and flexible transmission.

COATES CLIPPER MFG. CO., WORCESTER, MASS.

MATTHEWS MANUFACTURING COMPANY,

MANUFACTURERS OF

STOVE TRIMMINGS,
BALL BEARINGS,

Steam-Pipe Collars,
Ferrules and
Sheet Metal Specialties.

104 Gold Street, Worcester, Mass.

A. T. MATTHEWS, Treasurer.

OUR NEW EQUIPMENT

Of Type and Fast Machines for HIGH GRADE PRINTING has been pronounced by experts to be one of the best in New England. We can please you in quality and price.

Commonwealth Press

O. B. WOOD

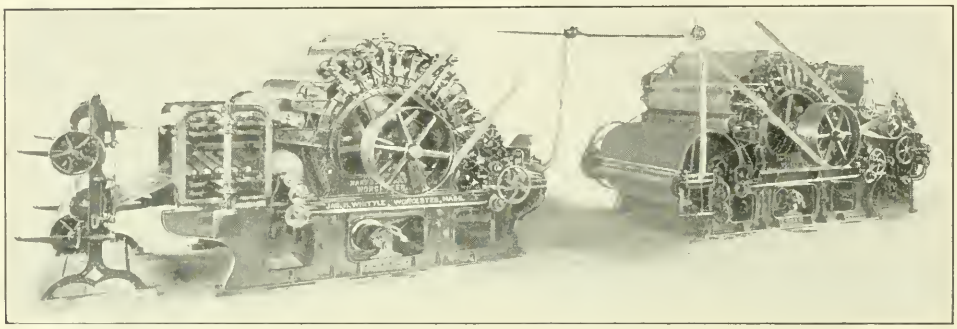
50 Foster Street, Worcester

The Twentieth Century Henderson Double Carding Process

Manufactured by JAMES H. WHITTLE

From Union Depot take Fitchburg cars that run on the hour and half hour, or get transfer at City Hall for Barber's Crossing or Brittan Square Cars, that run every 7½ minutes.

150 Harlow St., Worcester, Mass.



This cut represents the latest and most improved Carding Machine for carding woolens, worsteds, etc. By this process a Two-card Set will give more even work, better mixing, better carding, and as much carding as any Three-card Set now manufactured. This can be furnished in Three-card sets if required. By using this carding device about one-third of the space is saved, one third of the power, and the Cards are sold for less money than a Three-card Set With a Two-card Set, on the Breaker we get 8 Workers and on the Finisher 6 Workers, which makes 14 Workers against 17 in the regular way.

The Workers on these Cards run in pairs. The first Worker does no carding, as it runs point to point with the clothing on the main cylinder. This simply holds the stock while the main cylinder draws the staple out to its fullest length. It is then passed to the second Worker, which cards it, and what does not pass by this Worker is carried back by the Upper Stripper to the first Worker of the pair and recombed, and then returns to the second Worker, following through this process until it is thoroughly carded. The next set of workers is set slightly closer, and goes through the same operation.

In one set of these Cards there are 42 Carding Points against 17 Carding Points in a Three-card Set, giving far superior Carding to any Three-card Set now running.

We make these Cards the following sizes:

48″ and 60″ x 48″, either wood or iron Cylinders, which carries 14 Workers and 14 Strippers; 48″ and 60″ x 60″, which carries 18 Workers and 18 Strippers. Where not otherwise specified, we always put on a 30″ Iron Doffer on Breaker and 12″ Ring Doffers on the Finisher.

If you are in the market for Cards it will pay you to look into this.

JAMES H. WHITTLE.

Bay State House.

American and . .
.. European Plan

C. W. RIPLEY, Proprietor .·. WORCESTER, MASS.

H. HODGSON, Pres. and Treas. *FRED HODGSON, Gen. Mgr.*

Queensbury Mills

Worcester, Mass.

Manufacturers of Mohair and Worsted Yarns.

HAMMOND REED COMPANY

MANUFACTURERS OF

Organ Reeds, Reed Boards and other Organ Supplies

Telegraph and Cable Address, "Reeds" Worcester, Mass., U. S. A. **WORCESTER, MASS.**

ST. JOHN'S CHURCH, NORTHAMPTON, MASS.
The Norcross Brothers Co., Builders, Worcester, Mass.

THE ONLY GROUND FLOOR PRINTING OFFICE IN THE CITY

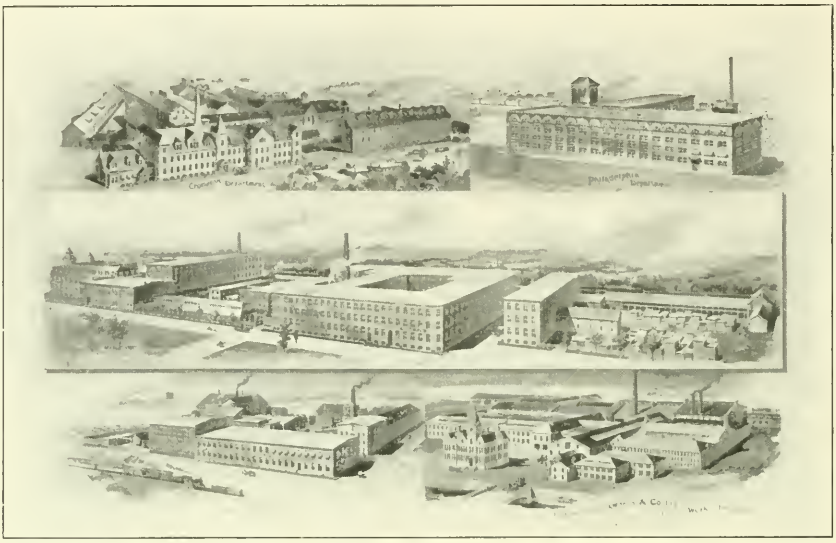
TROUBLES ALL OVER

If you put your commissions in our hands your Advertising Troubles will all be over. We are Catalogue and Booklet Builders from start to finish. You can get rid of that worried look if you say the word to

The Blanchard Press
WORCESTER MASS.

The Blanchard Press
Six Walnut Street
Worcester, Mass.

LOOMS and REPAIRS



CROMPTON & KNOWLES LOOM WORKS

Worcester Providence Philadelphia

The Smith, Green Company

R. C. CLEVELAND, President and Treasurer

Office, Yards and Warehouses: 32 Bloomingdale Road, Worcester, Mass.

Wholesale and Retail Builders' Supplies

PROPRIETORS OF

Elastic Pulp Plaster Manufacturing Company

Manufacturers of

ELASTIC PULP PLASTER

The only perfect Wall Plaster in the world

For Statistics of Worcester and List of Things Made

Write to the SECRETARY BOARD OF TRADE

In writing to advertisers, please mention the Worcester Magazine.

The Worcester Magazine

Vol. IX. CONTENTS FOR JUNE, 1906. No. 6

Frontispiece. Hon. William A. Lytle, President Worcester Board of Trade.

Magazine and Municipal Comment.
President of Board of Trade, - 113
Private Citizen and Public Schools, 114
Home Architects are Recognized, 114
Committee of Twenty Satisfied, - 115
Manufacturing Figures of Comparison, 116
Sees no Danger from the Rich, - 116
Deserved Promotion for Mr. Firth, 116
Assignment Bill Trimmed of its Snares, - - - - - - 117
Recommends Industrial Commission, 118
Taking Long Chances with Water Supply, - - - - - - 118

The Private Citizen and the Public Schools. By Prof. George I. Alden, - - - - - - - 119

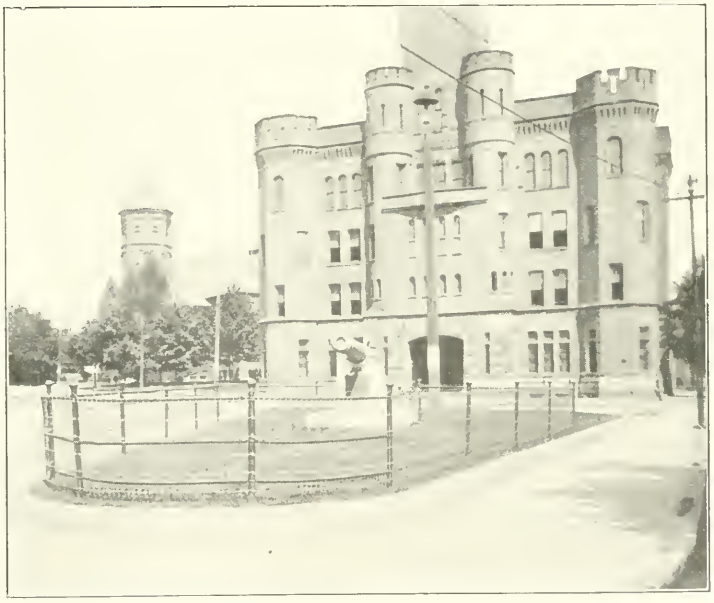
New Electrical Laboratories at Worcester Polytechnic Institute, - - - - - - - 124

Reasons for a Board of Trade, - 129

Board of Trade Notes, - - - 132

Published monthly by the Worcester Board of Trade, 11 Foster Street, Worcester, Mass. Committee on Publication, Rufus B. Fowler, G. Stanley Hall, Irving E. Comins, Milton P. Higgins, George W. Mackintire. Terms $1.00 a year; single copies, 10 cents. For sale by newsdealers. Entered at the Post Office, Worcester, Mass., as second-class matter, May 10, 1901.

ORNAMENTAL and SPECIAL FENCING
WIRE and WROUGHT IRON

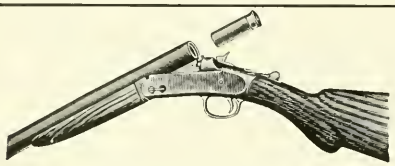


No. 6 Anchor Fence at Santiago Monument, Worcester Armory.
FLOWER BED GUARD, TREE GUARDS, TRELLIS.
N. E. ANCHOR FENCE CO., Dept. of Spencer Wire Co.,
91 Webster St., Worcester, Mass. Tel. 2665.

In writing to advertisers, please mention the Worcester Magazine.

That Office Help Is a source of continual anxiety to the business man unless he has the best. Poor help costs more than good help does. **Becker's Business College** has turned out the best class of help employed in Worcester. When in need of such help send to Becker's—the school giving the strongest business training in New England.

Telephone 378-3 **E. C. A. BECKER, Prop.**



Established 1871. Incorporated 1888.

HARRINGTON & RICHARDSON ARMS CO.,

MANUFACTURERS OF

FIREARMS.

Descriptive Catalogue on request. **Worcester, Mass., U. S. A.**

Logan, Swift & Brigham

ENVELOPE CO. DIVISION

Worcester, Massachusetts

MANUFACTURERS OF STANDARD

... Envelopes ...

The Outlook Envelope

Insures economy and absolute accuracy in the addressing of all your mail matter.

The Improved Columbian Clasp Envelope

The best and most satisfactory Merchandise Envelope made.

Specialists in STEEL DIE STAMPING

for Commercial Work. Samples and Prices of our Standard Goods furnished by your Stationer or Printer.

Worcester Has More Than 1000 Manufacturing Plants

Employing 26,000 Wage Earners

Its Annual Pay-roll is $13,000,000

The Value of Products annually produced is upward of $54,000,000

Write the Board of Trade for Particulars

In writing to advertisers, please mention the Worcester Magazine.

UNDER OUR
EMPLOYMENT
CONTRACT

We qualify you for a position paying at least $20 A WEEK in any of the following professions:

Illustrating, Bookkeeping, Electrical Engineering
Advertising, Proofreading, Showcard Writing,
Stenography, Journalism, Teaching,
Business Correspondence, English Branches.

Ambitious men and women should apply at once for our EMPLOYMENT CONTRACT and free book "Struggles with the World." Mention profession you wish to follow. WRITE TO-DAY.

CORRESPONDENCE INSTITUTE OF AMERICA. Box SCRANTON, PA.

"On Time" our watchword

Machine Jobbing, Special Machinery, Patents perfected and

Automobiles
repaired and stored

DAWSON MACHINE CO.

Telephone 2 Sargent Street

"Everything in Wire"

We manufacture from steel and brass wire a salable line of Hardware and Kitchen Goods Specialties, Belt Hooks; Universal, Jack and Plumbers' Chains; Coat and Hat Hooks; Garment Hangers; Blind Fixtures; Kitchen Wire Goods; Wire Nails, Tacks and Staples. Our line on sale at all Hardware and Department Stores. Special Goods made to order from wire.

The Wire Goods Company
WORCESTER, MASSACHUSETTS

NORTON PRODUCTS
Lead at St. Louis

The Exposition has Awarded

TWO GRAND PRIZES
TWO GOLD MEDALS

For Best Abrasive Products and Grinding Machinery

Norton Grinding Wheels
Norton Alundum
Norton India Oil Stones
Norton Grinding Machines

NORTON EMERY WHEEL COMPANY
NORTON GRINDING COMPANY

WORCESTER, MASS.

Plunger Elevator Co.,

Safe, Long-Lived, Economical, High-Speed Passenger Elevators a Specialty. . . . . .

Hydraulic Plunger

ELEVATORS.

OFFICE AND FACTORY.

BARBER'S, WORCESTER, MASS

The Smith, Green Company

R. C. CLEVELAND, President and Treasurer

Office, Yards and Warehouses: 32 Bloomingdale Road, Worcester, Mass.

Wholesale and Retail Builders' Supplies

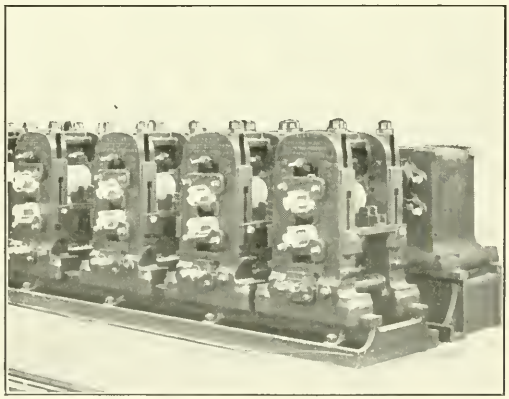
PROPRIETORS OF

Elastic Pulp Plaster Manufacturing Company

Manufacturers of

ELASTIC PULP PLASTER

The only perfect Wall Plaster in the world



MORGAN CONTINUOUS ROLL TRAIN.

Continuous Rolling Mills

Continuous Heating Furnaces

Continuous Gas Producers

Wire Mill Machinery

MORGAN CONSTRUCTION COMPANY

WORCESTER, MASS.

New York Office:
40 EXCHANGE PLACE

European Office:
52 RUE DE CONGRES, BRUSSELS

PHOTOGRAPHING & RETOUCHING · MACHINERY

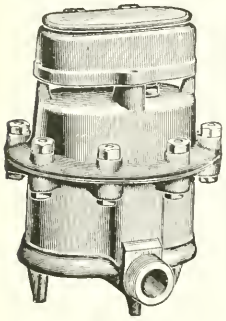
Half Tones

WOODBURY-CARLTON CO

made at No. 4 Walnut St.

DESIGNS BIRDS EYE VIEWS ART PRINTS

UNION WATER METER CO.,



BENJAMIN F. OTIS, Pres. and Manager.
EDW. P. KING, Treas. and Supt.

Water Meters.

WORCESTER, MASS.

WORCESTER MACHINE SCREW CO.,

STANDARD SCREW CO. SUCCESSORS.

MANUFACTURERS OF

SET, CAP AND MACHINE

SCREWS

IN IRON, STEEL AND BRASS.

STUDS FOR STEAM ENGINES, PUMPS, ETC.

WORCESTER, MASS.

HATCH & BARNES CO.,

MANUFACTURERS OF

Doors, Sash, Blinds

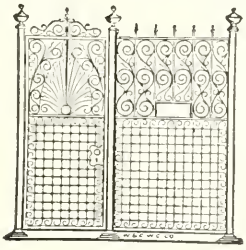
AND FINE BUILDERS' FINISH.

Practical Stair Builders. Newels, Balusters and Rails constantly on hand and made to order. Wood Turning a specialty.

Office, 196 Union Street, WORCESTER, MASS.

WRIGHT WIRE CO.

WIRE AND WIRE CLOTH



WIRE GUARD WORK.

Elevator Cabs and Enclosures

Coal Screens and Riddles.

POULTRY NETTING.

WORCESTER, MASS. PALMER, MASS

Duncan & Goodell Co.,

WHOLESALERS AND RETAILERS IN

Hardware and Cutlery.

We have the finest line of Table and Pocket Cutlery, also highest grade of Scissors, including all kinds from Finest Manicure Scissors to Tailors' Shears, to be seen in Worcester.

We make a specialty of Builders' Hardware and Supplies, and carry in stock a large line of best quality door and window trimmings.

404 Main Street, Cor. Pearl.

In writing to advertisers, please mention the Worcester Magazine.

The most favorable place for the location of a Manufacturing Business.

Worcester

Massachusetts

Water Rate To Manufacturers Ten Cents per 1000 Gallons.

Central Location.

Unrivalled Railroad Facilities.

High-Grade Mechanics.

Unfailing Supply of Help.

Superior Schools the Attraction for Labor.

For further information address

Secretary,
Board of Trade.

WORCESTER BUSINESS DIRECTORY.

MANUFACTURERS AND DEALERS.

AGRICULTURAL IMPLEMENTS.

Worcester Kemp Manure Spreader, Buckeye Mower, Bullard Hay Tedder, Worcester Rake. RICHARDSON MANUFACTURING CO., 84 Prescott St., Worcester.

ARCHITECTS.

George H. Clemence, Architect, Walker Building, Room 205, 405 Main Street, Worcester, Mass.

Stephen C. Earle, Architect, Room 45, Burnside Building, 339 Main Street, Worcester, Mass.

Fuller & Delano Company, Architects, 452 Main St. Worcester, Mass. Ward P. Delano, Robt. L. Fuller

Clellan Waldo Fisher, Architect. Office, 718 State Mutual Building, Worcester.

Frost, Briggs & Chamberlain, Architects, Offices 518 Main Street, Knowles Building, Worcester, Mass.

ASH SIFTERS.

"Hustler" Ash Sifter. HILL DRYER CO., 340-350 Park Avenue, Worcester, Mass.

BALL BEARINGS.

Worcester Pressed Steel Co., North Ave.; take Barber's Crossing Car. Automobile and Bicycle Parts. Metal Stampings.

BANKS.

People's Savings Bank, 452 Main Street. See Advt.

Worcester County Institution for Savings, 13 Foster St. See Advt.

Worcester Five Cents Savings Bank, 314 Main St. See Advt.

Worcester Mechanics Savings Bank, 311 Main St. See Advt.

Worcester National Bank, 9 Foster Street, See Advt.

Worcester Trust Co., 448 Main Street. See Advt.

BELTING.

Oak tanned leather belting always in stock. GRATON & KNIGHT MFG. CO., Bloomingdale Road. See Advt.

Pure Oak Bark Tanned Leather Belting. Special Waterproof Belting, "B. & F." Belting, Dynamo Belts and other specials. Mill Supplies. J. F. & W. H. WARREN CO., 44 Vine Street, Worcester, Mass.

BLACKSMITHS.

Common Sense Shoeing Forge. JOHN J. GRADY, 162 Mechanic Street. Tel. 1028 6.

BOLTS AND NUTS.

Bolts, cold punched nuts and washers, die making and metal punching. THOMAS SMITH CO., Frank W. Foye, 14 Cypress Street.

BOOK BINDERY.

Book Binders and Paper Rulers. J. S. WESBY & SONS, 387 Main Street and 50 Foster Street.

BUILDERS' FINISH.

Doors, sash, blinds, and fine builders' finish. HATCH & BARNES CO., 196 Union Street. See Advt.

BUILDERS' SUPPLIES.

Builders' Supplies. SMITH, GREEN CO., 32 Bloomingdale Road. See Advt.

BUSINESS COLLEGES.

Bookkeepers, stenographers and typewriters. BECKER'S BUSINESS COLLEGE, 492 Main St. See Advt.

Business Men when in need of carefully trained Bookkeepers and Stenographers apply to C. B. POST, WORCESTER BUSINESS INSTITUTE, 476 Main Street.

CALENDARS.

Advertising Calendars, Blotters, Circulars, Booklets, Mailing Cards, Etc. PROGRESS PUB. CO., 377 Main St.

CHAINS.

Jack Chains, Ladder Chains, all kinds of Metal. HALE BROTHERS COMPANY, 42 Lagrange Street.

CLOTHES DRYERS.

For Lawn, Balcony or Roof. HILL DRYER CO., 340 to 350 Park Avenue, Worcester, Mass.

CONTRACTORS AND BUILDERS.

Builders of public, commercial and manufacturing buildings and private residences. J. W. BISHOP CO., Worcester, Boston, Providence, New York.

E. J. Cross, General Contractor. Estimates furnished on any class of buildings. Office, 82 Foster Street, Worcester.

Public and mercantile buildings a specialty. THE NORCROSS BROS. CO. See Advt.

CUT GLASS WORKS.

Rich Cut Glass. Factory and Salesroom, 17 Hermon Street. WILLIAM TAIT, Proprietor.

DECORATORS AND PAINTERS.

Artistic frescoing and decorating of churches, halls and residences, sign and house painting. SANDGREN & EHNBORG, 274 Main Street. Tel. 983-4.

ELECTRICAL ENGINEERS AND CONTRACTORS.

Electrical Contractors and Dealers in Supplies. We install Dynamos and Motors, Telephones, Lighting, Etc. PAGE ELECTRIC CO., 24 Pearl Street.

Electrical Supplies, construction Automatic Telephone Systems. PLUMMER, HAM & RICHARDSON, 619 Main Street.

ELECTRIC LIGHT AND POWER.

Electric Light and Power supplied by WORCESTER ELECTRIC LIGHT COMPANY, 66 Faraday Street, Worcester, Mass.

ELEVATORS.

Hydraulic plunger elevators. PLUNGER ELEVATOR CO., Barber's. See Advt.

EMERY WHEELS.

Grinding Wheels, grinding machinery and India oil stones. NORTON EMERY WHEEL CO. See Advt.

ENGRAVING.

Half-Tone Work done artistically. WOODBURY-CARLTON CO., 4 Walnut Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

ENGINE LATHES.

Drilling Machines and engine lathes. PRENTICE BROTHERS, Cambridge Street. See Advt.

ENGINEERS.

Mill Buildings, Steel, Concrete Construction; Power Installations, THOMPSON & GALLAGHER, 339 Main St.

ENVELOPE MANUFACTURERS.

Envelopes and Envelope Specialties. LOGAN, SWIFT & BRIGHAM DIVISION. See Adv.

FIREARMS.

Guns and pistols of all kinds. HARRINGTON & RICHARDSON ARMS CO., Park Avenue. See Advt.

FOUNDRIES.

Light and heavy Iron Castings. JACKSON STREET FOUNDRY, J. A. Colvin, Prop., 52 Jackson Street.

GAS ENGINES.

Greendale Gas Engine Co., manufacturers of Gas and Gasoline Engines. S. F. BURLINGAME, Manager. Shop 'Phone 1063-2.

HARDWARE.

Wholesale and retail dealers in hardware and cutlery. DUNCAN & GOODELL CO., 404 Main Street. See Advt.

HEATING CONTRACTORS.

Ideal Boilers, steam and water. THE SINCLAIR CO., 28 Pearl Street. See Advt.

Acetylene Lighting—Plants installed. THE SINCLAIR CO., 28 Pearl Street. See Advt.

HOTEL.

Bay State House, European plan. C. W. RIPLEY, proprietor. See Advt.

IRON AND STEEL.

Supplies for blacksmiths, carriage-makers. GEO. F. BLAKE, JR., & CO. Office and storehouse Mechanic and Foster Streets. Tel. 2508-2509.

IRON FOUNDERS.

High Grade Machinery Castings. STANDARD FOUNDRY CO., Tainter Street. See Advt.

INSURANCE.

General insurance agency. CHARLES E. GRANT, Rooms 711 and 712 State Mutual Building.

Life Policies. STATE MUTUAL LIFE ASSURANCE CO. See Advt.

LEATHER AND CANVAS GOODS.

Suit Cases and Bags, Toilet Cases, Music Goods, Etc. WARREN LEATHER GOODS CO., 80 Austin Street.

LEATHER BELTING.

Hudson's extra oak-tanned Leather Belting always in stock. HUDSON BELTING CO., Eaton Place. See Advt.

LOOMS AND REPAIRS.

Looms and Repairs. CROMPTON & KNOWLES LOOM WORKS. See Advt.

LUMBER.

W. H. Sawyer Lumber Co. Hard Pine Timber a specialty. All kinds Finish constantly in kiln.

Stone & Foster Lumber Co., Central and Union Sts. General line of lumber, wholesale or retail.

MACHINE JOBBING.

Machine Jobbing, Special Machinery, Patents perfected. DAWSON MACHINE CO., 2 Sargent Street. See Advt.

MACHINE SCREWS.

Machine Screws in iron, steel and brass. WORCESTER MACHINE SCREW CO., Beacon Street. See Advt.

MACHINISTS' TOOLS.

Planers a specialty, Machine Tools, Lathes and Drills. J. S. WHEELER & CO., 23 Hermon Street.

Lathes, Punches and Shears. W. C. YOUNG, 17 Hermon Street.

METAL SPECIALTIES.

Stove Trimmings, steampipe collars and ferrules. MATTHEWS MFG. CO., 104 Gold Street. See Advt.

MILL SUPPLIES.

Crawford & Co., 665 Main Street. Everything in Mill Supplies, Wool Stock, Cotton and Cotton Waste.

OVERALLS.

Overalls, Shirts, Frocks, Etc. A. G. HILDRETH, 25 Hermon Street, Worcester, Mass.

PAINTS AND OILS.

Painters' Supplies and Lubricating Oils. F. M. HEATH & CO., 40 Southbridge St., opp. Post Office.

PATENT CURTAIN RODS.

Adjustable Curtain Rods and Sockets. FOWLER & CO., 65 Beacon Street, Worcester, Mass.

PRINTING.

Good Printing quickly executed. F. S. BLANCHARD & CO., 6 Walnut Street. See Advt.

Printing and Engraving, HURLEY'S PRINTERY, 38 and 44 Front Street.

Posters, Show Cards, Theatrical and Commercial Printing. C. R. STOBBS, 16 Mechanic Street.

Commercial Printing and Blank-book Work. O. B. WOOD, 50 Foster Street. See Advt.

RAILROADS.

Boston & Albany division of N. Y. C. & H. R. R. R. See Advt.

RAZORS.

Manufacturers of all styles, including Safety Razors. J. R. TORREY RAZOR CO., Chandler Street.

REEDS.

Organ Reeds and Reed Boards. HAMMOND REED CO., Worcester, Mass. See Advt.

RAZOR STROPS.

Manufacturers of all styles of Strops, also Stropping Machine. J. R. TORREY & CO., Chandler Street.

ROLLING MILLS.

Continuous Rolling Mills, Gas Producers and Wire Mill Machinery. MORGAN CONSTRUCTION CO. See Adv.

SHOE MANUFACTURERS.

Heywood, the Worcester made Shoe. HEYWOOD BOOT & SHOE CO., Retail Store 415 Main Street. See Advt.

SLIPPERS.

Shoes and Slippers, Barefoot Sandals. Felt footwear a specialty. WORCESTER SLIPPER CO., J. P. Grosvenor, Prop., 370 Park Avenue.

STAMPINGS.

Worcester Pressed Steel Co., North Ave.; take Barbers' Crossing car. Light and heavy Stampings in all metals.

STEAM AND GAS FITTERS.

Braman, Dow & Co., Contractors for Heating Apparatus, Steam, Water or Vapor. Mill Piping a specialty. 7 Washington Square.

STEAM AND GAS SUPPLIES.

Leading Makes of steam and hot water heaters. CENTRAL SUPPLY CO., 35 Waldo Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

SUIT CASES AND BAGS.

Largest and best variety, up-to-date in every respect. WARREN LEATHER GOODS CO.

TACKS AND NAILS.

Shoe Tacks, Hungarian Nails, Hob Nails. P. E. SOMERS, 17 Hermon Street, Worcester, Mass.

TAXIDERMIST.

Chas K. Reed, Naturalists' Supplies. 75 Thomas Street, corner Union, Worcester Mass.

VALENTINES.

Valentines, Holiday Goods, Easter Novelties. THE GEO. C. WHITNEY CO., 67 Union Street, Worcester.

WATER METERS.

The Best Known Meter. UNION WATER METER CO., Hermon Street. See Advt.

WIRE FLY KILLER.

Bigelow Wire Fly Killer. It kills but does not crush the fly. J. F. BIGELOW, 11 Foster Street.

WIRE GOODS.

Wire of all Kinds. SPENCER WIRE CO., Worcester and Spencer. See Advt.

Wire Goods and Wire Novelties. WORCESTER WIRE GOODS CO. See Advt.

Wire, wire cloth and poultry netting. WRIGHT WIRE CO., Worcester and Palmer. See Advt.

WOOL-SPINNING MACHINERY.

Johnson & Bassett, Wool-Spinning Machinery. 114 Foster Street, Worcester, Mass.

BANKS.

WORCESTER NATIONAL BANK, 9 Foster Street. Incorporated as a State Bank in 1804; as a National Bank in 1864. Capital $250,000; surplus and undivided profits $321,508.72. Dividends April and October; rate past year, 8 per cent. President, James P. Hamilton; Cashier, Samuel D. Spurr; Assistant Cashier, F. M. Hedden; Directors, A. George Bullock, Charles A. Chase, James P. Hamilton, Lincoln N. Kinnicutt, Edward L. Davis, George F. Brooks, Paul B. Morgan, Reginald Washburn, Matthew J. Whittall.

WORCESTER TRUST COMPANY, 344 Main Street. Incorporated in 1868. Capital $500,000; surplus $500,000. Dividends January, April, July, and October; rate past year, 6 per cent. William D. Luey, President; Henry A. Marsh, Nathaniel Paine, Henry P. Murray, Vice Presidents; Samuel H. Clary, Treasurer; Alvin J. Daniels, Secretary; Chairman of Board of Directors, Henry A. Marsh; Directors, Charles S. Barton, Geo. F. Blake, A. George Bullock, John H. Coes, Alexander DeWitt, Thomas B. Eaton, William Endicott, Jr., Henry F. Harris, Rockwood Hoar, C. Henry Hutchins, Lincoln N. Kinnicutt, Edwin T. Marble, J. Russel Marble, Neal Rantoul, Wm. H. Sawyer, Frank Bulkeley Smith, E. D. Thayer, Chas. M. Thayer, Robert M. Washburn, George W. Wells, M. J. Whittall, G. Marston Whitin, Charles A. Williams, Robert Winsor, A. W. Parmelee, A. O. Young.

PEOPLE'S SAVINGS BANK, 452 Main Street. Incorporated in 1864. Deposits February 1st, $11,450,000. Guaranty Fund $540,000. Number of depositors 24,234. Deposits put upon interest February, May, August and November 1st. Dividends payable February and August 2nd and added to the principal as of the 1st of those months if not withdrawn. President, Samuel R. Heywood; Treasurer, Charles M. Bent; Assistant Treasurer, Frederick W. White; Investment Committee, Samuel R. Heywood, Edwin T. Marble, Henry M. Harris, Charles M. Thayer, Alexander DeWitt.

THE WORCESTER MECHANICS SAVINGS BANK, Worcester, Mass. Organized, 1851. Officers: President, A. B. R. Sprague; Vice Presidents, John H. Coes, Thomas B. Eaton, Eli J. Whittemore; Treasurer, Frank W. Cutting; Trustees, A. B. R. Sprague, Thomas B. Eaton, Thomas G. Kent, Eli J. Whittemore, John H. Coes, Francis H. Dewey, Chas. A. Hill, Chas. F. Hanson, Geo. E. Merrill, Levis G. White, Francis W. Blacker, Henry S. Pratt, Arthur P. Rugg, Chas. D. Lamson.

WORCESTER FIVE CENTS SAVINGS BANK, 314 Main Street. Incorporated, April 1, 1854. Assets, $10,473,732.59; number of depositors, 34,421. Deposits received from five cents to $1000 and placed on interest January, April, July and October. Dividends payable on and after January 15 and July 15. President, Henry M. Witter; Vice Presidents, Simeon N. Story, Gilbert J. Rugg, Edwin Brown, Roger F. Upham, Otis E. Putnam, James Draper; Treasurer, J. Stewart Brown.

WORCESTER COUNTY INSTITUTION FOR SAVINGS, 13 Foster Street. Incorporated, February 5, 1828. Deposits, $19,014,022; assets, $20,414,156; number depositors, 39,955. Deposits put on interest January, April, July and October. Dividends payable January 15 and July 15. President, Chas. A. Chase; Vice Presidents, Edward L. Davis, Geo. E. Francis, Thos. H. Gage; Treasurer, Alfred L. Aiken; Board of Investment, Chas. A. Chase, Sam'l B. Woodward, Geo. E. Francis, Lyman A. Ely, A. George Bullock; Clerk of Corporation, Chas. F. Aldrich.

The Old Family Wine Store

SOLE MANUFACTURERS OF

G. F. H. PRIVATE STOCK WHISKEY

and

Cold Blast Ginger Ale

Write for Price List

GEO. F. HEWETT CO.

Established 1860
Telephone 2455

41, 43, 45 Waldo St., Worcester, Mass.

Boston & Albany RAILROAD
N. Y. C. & H. R. R. R., LESSEE.

NEW YORK CENTRAL LINES

"Summer Homes on the Boston & Albany R. R."

Is the title of a 48-page illustrated and descriptive folder issued by the Passenger Department of the Boston & Albany Railroad, containing a complete list of Hotels and Summer Boarding Houses along the line of that road in the Berkshire Hills District.

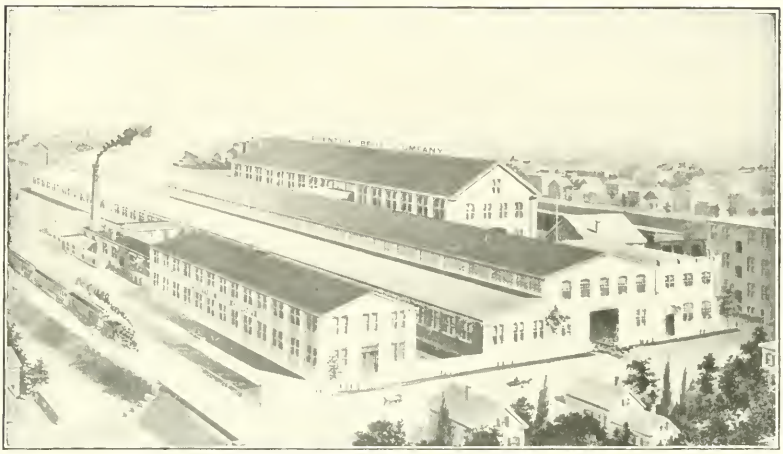
It is richly illustrated with half-tone cuts of mountains, lakes, waterfalls, stage-roads, etc., and all prospective summer tourists will find it most interesting. A copy may be secured by addressing the undersigned.

S. S. Van Etten, City Ticket and Passenger Agent,
385 Main Street, Worcester.

A. S. HANSON, General Passenger Agent, Boston.

PRENTICE BROS. COMPANY,

WORCESTER, MASS.



BUILDERS OF

DRILLING MACHINES AND ENGINE LATHES.

COATES CLIPPERS

Coates Hair Clippers and flexible transmission.

COATES CLIPPER MFG. CO., WORCESTER, MASS.

MATTHEWS MANUFACTURING COMPANY,

MANUFACTURERS OF

STOVE TRIMMINGS, BALL BEARINGS,

Steam-Pipe Collars, Ferrules and Sheet Metal Specialties.

104 Gold Street, Worcester, Mass.

A. T. MATTHEWS, Treasurer.

OUR NEW EQUIPMENT

Of Type and Fast Machines for HIGH GRADE PRINTING has been pronounced by experts to be one of the best in New England. We can please you in quality and price.

Commonwealth Press

O. B. WOOD

50 Foster Street, Worcester

Bay State House.

American and . .
.. European Plan

C. W. RIPLEY, Proprietor .·. WORCESTER, MASS.

WORCESTER

The Mecca of Manufacturers

Largest Manufacturing City in the United States not on a waterway—over 1000 Industrial Plants, employing 26,000 mechanics.

Has more than 3,000,000 people within a radius of 50 miles.

Has four great connecting Railroad Systems with superior shipping facilities.

Has 172 Passenger Trains a day.

Has 293 miles Street Railway Tracks, over which 30,000,000 passengers ride annually.

Has $52,000,000 deposits in Savings Banks, credited to 112,000 depositors.

Has Park System covering more than 1200 acres.

Has most beautiful Water Park in the country.

Has 210 miles of Streets, 176 miles of Sewers and 193 miles of Water Mains.

Has 95 Public Schools and institutions of higher education.

Has 25 Libraries with over 500,000 volumes.

The Largest Loom Works, Valentine, Emery Wheel, Envelope, Corset, Brussels Carpet, Paper-box Machinery, Wire-working, Card Clothing and Spring Plants in the World.

For further information regarding Worcester, write to

Secretary Worcester Board of Trade

WORCESTER, MASSACHUSETTS

HAMMOND REED COMPANY

MANUFACTURERS OF

Organ Reeds, Reed Boards and other Organ Supplies

Telegraph and Cable Address, "Reeds." Worcester, Mass., U. S. A. **WORCESTER, MASS.**

ST. JOHN'S CHURCH, NORTHAMPTON, MASS.
The Norcross Brothers Co., Builders, Worcester, Mass.

THE ONLY GROUND FLOOR PRINTING OFFICE IN THE CITY

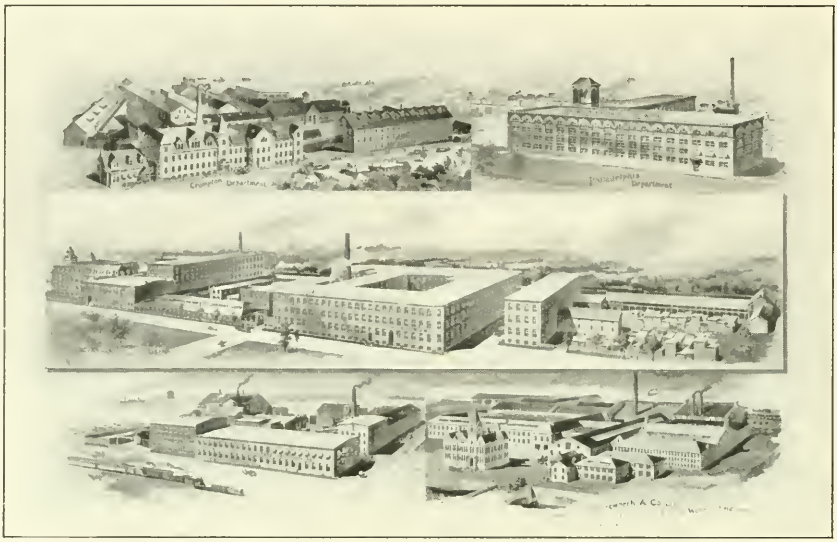
The Blanchard Press
WORCESTER MASS.

TROUBLES
ALL OVER

If you put your commissions in our hands your Advertising Troubles will all be over. We are Catalogue and Booklet Builders from start to finish. You can get rid of that worried look if you say the word to

The Blanchard Press
Six Walnut Street
Worcester, Mass.

LOOMS and REPAIRS



CROMPTON & KNOWLES LOOM WORKS

Worcester Providence Philadelphia

For Statistics of Worcester and List of Things Made

Write to the SECRETARY BOARD OF TRADE

The Worcester Magazine

Vol. IX. CONTENTS FOR JULY, 1906. No. 7

Frontispiece. New Church of First Baptist Society.

Magazine and Municipal Comment.
Board of Trade Committees, - 135
Railroads not yet Ready, - - 136
Both have Broad Platforms, - - 136
Gov. Guild's Flat-footed Stand, - 137
Mr. Logan on the Past and Present, 138
Good Intentions go Wrong, - - 138
Don'ts for the Public, - - - 139
Billboards and Public Parks, - - 139
Going after Business, - - - 139
Features of New Automobile Law, 140

Giants of Then and Now. By Mr. James Logan, - - - - - 141

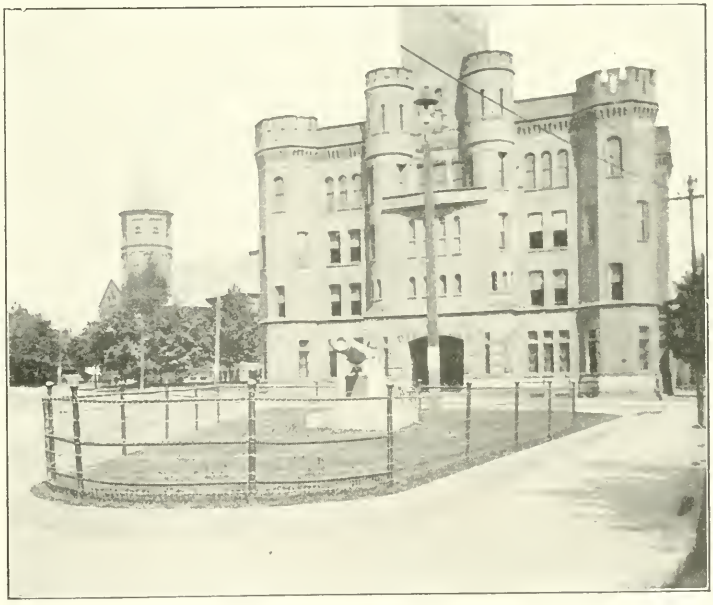
Our Social Unrest. By President Carroll D. Wright, - - - 147

Educational Results from Examinations. By Charles F. King, - 150

Board of Trade Notes, - - - 151

Published monthly by the Worcester Board of Trade, 11 Foster Street, Worcester, Mass. Committee on Publication, Rufus B. Fowler, G. Stanley Hall, Irving E. Comins, Milton P. Higgins, George W. Mackintire. Terms $1.00 a year; single copies, 10 cents. For sale by newsdealers. Entered at the Post Office, Worcester, Mass., as second-class matter, May 10, 1901.

ORNAMENTAL and SPECIAL FENCING
WIRE and WROUGHT IRON

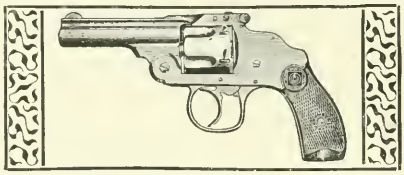


No. 6 Anchor Fence at Santiago Monument, Worcester Armory.
FLOWER BED GUARD, TREE GUARDS, TRELLIS.
N. E. ANCHOR FENCE CO., Dept. of Spencer Wire Co.,
91 Webster St., Worcester, Mass. Tel. 2665.

In writing to advertisers, please mention the Worcester Magazine.

That Office Help Is a source of continual anxiety to the business man unless he has the best. Poor help costs more than good help does. **Becker's Business College** has turned out the best class of help employed in Worcester. When in need of such help send to Becker's—the school giving the strongest business training in New England.

Telephone 378-3 **E. C. A. BECKER, Prop.**



Established 1871. Incorporated 1888.

HARRINGTON & RICHARDSON ARMS CO.,

Manufacturers of

FIREARMS.

Descriptive Catalogue on request. WORCESTER, MASS., U. S. A.

U.S. ENVELOPE CO. USE SPRINGFIELD, MASS.

Logan, Swift & Brigham

ENVELOPE CO. DIVISION

Worcester, Massachusetts

MANUFACTURERS OF STANDARD

... Envelopes ...

The Outlook Envelope

Insures economy and absolute accuracy in the addressing of all your mail matter.

The Improved Columbian Clasp Envelope

The best and most satisfactory Merchandise Envelope made.

Specialists in STEEL DIE STAMPING

for Commercial Work. Samples and Prices of our Standard Goods furnished by your Stationer or Printer.

PETER WOOD, Pres. and Treas.

THE PETER WOOD DYEING COMPANY

Bleachers and Dyers of

COTTON, YARNS and WARPS, THREADS, TAPES, BRAIDS, ETC.

Dyers of Alizarine and Indigo Colors

Works on Holmes Street WORCESTER, MASS.

UNDER OUR
EMPLOYMENT
CONTRACT

We qualify you for a position paying at least $20 A WEEK in any of the following professions:

Illustrating, Bookkeeping, Electrical Engineering
Advertising, Proofreading, Showcard Writing,
Stenography, Journalism, Teaching,
Business Correspondence, English Branches.

Ambitious men and women should apply at once for our EMPLOYMENT CONTRACT and free book "Struggles with the World." Mention profession you wish to follow. WRITE TO-DAY.

CORRESPONDENCE INSTITUTE OF AMERICA. Box SCRANTON, PA.

"On Time" our watchword

Machine Jobbing, Special Machinery, Patents perfected and

Automobiles
repaired and stored

DAWSON MACHINE CO.

Telephone 2 Sargent Street

"Everything in Wire"

We manufacture from steel and brass wire a salable line of Hardware and Kitchen Goods Specialties, Belt Hooks; Universal, Jack and Plumbers' Chains; Coat and Hat Hooks; Garment Hangers; Blind Fixtures; Kitchen Wire Goods; Wire Nails, Tacks and Staples. Our line on sale at all Hardware and Department Stores. Special Goods made to order from wire.

The Wire Goods Company
WORCESTER, MASSACHUSETTS

THE MERITS
OF NORTON PRODUCTS
RECOGNIZED!

TWO GRAND PRIZES
TWO GOLD MEDALS

AWARDED AT
LOUISIANA PURCHASE EXPOSITION

NORTON EMERY WHEEL COMPANY
NORTON GRINDING COMPANY

WORCESTER, MASS.

Plunger Elevator Co.,

Safe, Long-Lived, Economical, High-Speed Passenger Elevators a Specialty. . . . . .

Hydraulic Plunger

ELEVATORS.

OFFICE AND FACTORY.

BARBER'S, WORCESTER, MASS

The Smith, Green Company

R. C. CLEVELAND, President and Treasurer

Office, Yards and Warehouses: 32 Bloomingdale Road, Worcester, Mass.

Wholesale and Retail Builders' Supplies

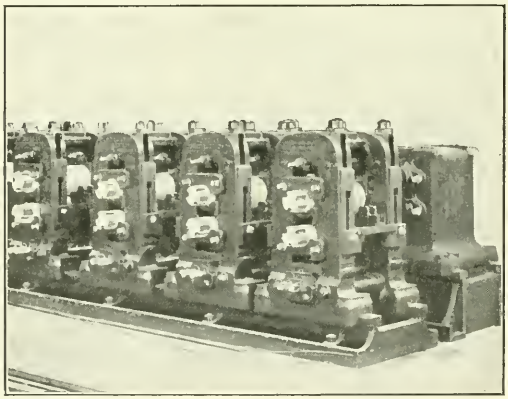
PROPRIETORS OF

Elastic Pulp Plaster Manufacturing Company

Manufacturers of

ELASTIC PULP PLASTER

The only perfect Wall Plaster in the world



MORGAN CONTINUOUS ROLL TRAIN.

Continuous Rolling Mills

Continuous Heating Furnaces

Continuous Gas Producers

Wire Mill Machinery

MORGAN CONSTRUCTION COMPANY

WORCESTER, MASS.

New York Office:
40 EXCHANGE PLACE

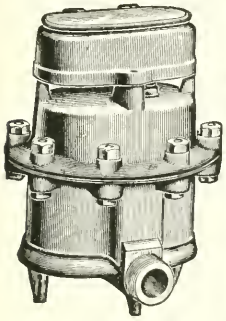
European Office:
52 RUE DE CONCRES, BRUSSELS

PHOTOGRAPHING and RETOUCHING · MACHINERY etc.

Half Tones
WOODBURY-CARLTON CO
made at No. 4 Walnut St.

DESIGNS BIRDS EYE VIEWS ART PRINT

UNION WATER METER CO.,



BENJAMIN F. OTIS, Pres. and Manager.
EDW. P. KING, Treas. and Supt.

Water Meters.

WORCESTER, MASS.

WORCESTER MACHINE SCREW CO.,

STANDARD SCREW CO. SUCCESSORS.

MANUFACTURERS OF

SET, CAP AND MACHINE

SCREWS

IN IRON, STEEL AND BRASS.

STUDS FOR STEAM ENGINES, PUMPS, ETC.

WORCESTER, MASS.

HATCH & BARNES CO.,

MANUFACTURERS OF

Doors, Sash, Blinds

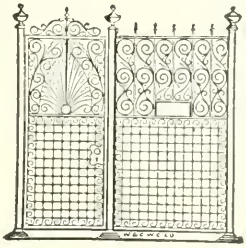
AND FINE BUILDERS' FINISH.

Practical Stair Builders. Newels, Balusters and Rails constantly on hand and made to order. Wood Turning a specialty.

Office, 196 Union Street, WORCESTER, MASS.

WRIGHT WIRE CO.

WIRE AND WIRE CLOTH



WIRE GUARD WORK.

Elevator Cabs and Enclosures

Coal Screens and Riddles.

POULTRY NETTING.

WORCESTER, MASS. PALMER, MASS

Duncan & Goodell Co.,

WHOLESALERS AND RETAILERS IN

Hardware and Cutlery.

We have the finest line of Table and Pocket Cutlery, also highest grade of Scissors, including all kinds from Finest Manicure Scissors to Tailors' Shears, to be seen in Worcester.

We make a specialty of Builders' Hardware and Supplies, and carry in stock a large line of best quality door and window trimmings.

404 Main Street, Cor. Pearl.

In writing to advertisers, please mention the Worcester Magazine.

The most favorable place for the location of a Manufacturing Business.

Worcester

Massachusetts

Water Rate To Manufacturers Ten Cents per 1000 Gallons.

Central Location.

Unrivalled Railroad Facilities.

High-Grade Mechanics.

Unfailing Supply of Help.

Superior Schools the Attraction for Labor.

For further information address

Secretary,
Board of Trade.

WORCESTER BUSINESS DIRECTORY.

MANUFACTURERS AND DEALERS.

AGRICULTURAL IMPLEMENTS.

Worcester Kemp Manure Spreader, Buckeye Mower, Bullard Hay Tedder, Worcester Rake. RICHARDSON MANUFACTURING CO., 84 Prescott St., Worcester.

ARCHITECTS.

George H. Clemence, Architect, Walker Building, Room 205, 405 Main Street, Worcester, Mass.

Stephen C. Earle, Architect, Room 45, Burnside Building, 339 Main Street, Worcester, Mass.

Fuller & Delano Company, Architects, 452 Main St. Worcester, Mass. Ward P. Delano, Robt. L. Fuller

Clellan Waldo Fisher, Architect. Office, 718 State Mutual Building, Worcester.

Frost, Briggs & Chamberlain, Architects, Offices 518 Main Street, Knowles Building, Worcester, Mass.

ASH SIFTERS.

"Hustler" Ash Sifter. HILL DRYER CO., 340-350 Park Avenue, Worcester, Mass.

BALL BEARINGS.

Worcester Pressed Steel Co., North Ave.; take Barber's Crossing Car. Automobile and Bicycle Parts. Metal Stampings.

BANKS.

People's Savings Bank, 452 Main Street. See Advt.

Worcester County Institution for Savings, 13 Foster St. See Advt.

Worcester Five Cents Savings Bank, 314 Main St. See Advt.

Worcester Mechanics Savings Bank, 311 Main St. See Advt.

Worcester National Bank, 9 Foster Street. See Advt.

Worcester Trust Co., 448 Main Street. See Advt.

BELTING.

Oak tanned leather belting always in stock. GRATON & KNIGHT MFG. CO., Bloomingdale Road. See Advt.

Pure Oak Bark Tanned Leather Belting. Special Waterproof Belting, "B. & F." Belting, Dynamo Belts and other specials. Mill Supplies. J. F. & W. H. WARREN CO., 44 Vine Street, Worcester, Mass.

BLACKSMITHS.

Common Sense Shoeing Forge. JOHN J. GRADY, 162 Mechanic Street. Tel. 1028-6.

BOLTS AND NUTS.

Bolts, cold punched nuts and washers, die making and metal punching. THOMAS SMITH CO., Frank W. Foye, 14 Cypress Street.

BOOK BINDERY.

Book Binders and Paper Rulers. J. S. WESBY & SONS, 387 Main Street and 50 Foster Street.

BUILDERS' FINISH.

Doors, sash, blinds, and fine builders' finish. HATCH & BARNES CO., 196 Union Street. See Advt.

BUILDERS' SUPPLIES.

Builders' Supplies. SMITH, GREEN CO., 32 Bloomingdale Road. See Advt.

BUSINESS COLLEGES.

Bookkeepers, stenographers and typewriters. BECKER'S BUSINESS COLLEGE, 492 Main St. See Advt.

Business Men when in need of carefully trained Bookkeepers and Stenographers apply to C. B. POST, WORCESTER BUSINESS INSTITUTE, 476 Main Street.

CALENDARS.

Advertising Calendars, Blotters, Circulars, Booklets, Mailing Cards, Etc. PROGRESS PUB. CO., 377 Main St.

CHAINS.

Jack Chains, Ladder Chains, all kinds of Metal. HALE BROTHERS COMPANY, 42 Lagrange Street.

CLOTHES DRYERS.

For Lawn, Balcony or Roof. HILL DRYER CO., 340 to 350 Park Avenue, Worcester, Mass.

CONTRACTORS AND BUILDERS.

Builders of public, commercial and manufacturing buildings and private residences. J. W. BISHOP CO., Worcester, Boston, Providence, New York.

E. J. Cross, General Contractor. Estimates furnished on any class of buildings. Office, 82 Foster Street, Worcester.

Public and mercantile buildings a specialty. THE NORCROSS BROS. CO. See Advt.

DECORATORS AND PAINTERS.

Artistic frescoing and decorating of churches, halls and residences, sign and house painting. SANDGREN & EHNBORG, 274 Main Street. Tel. 983-4.

ELECTRICAL ENGINEERS AND CONTRACTORS.

Electrical Contractors and Dealers in Supplies. We install Dynamos and Motors, Telephones, Lighting, Etc. PAGE ELECTRIC CO., 24 Pearl Street.

Electrical Supplies, construction Automatic Telephone Systems. PLUMMER, HAM & RICHARDSON, 619 Main Street.

ELECTRIC LIGHT AND POWER.

Electric Light and Power supplied by WORCESTER ELECTRIC LIGHT COMPANY, 66 Faraday Street, Worcester, Mass.

ELEVATORS.

Hydraulic plunger elevators. PLUNGER ELEVATOR CO., Barber's. See Advt.

EMERY WHEELS.

Grinding Wheels, grinding machinery and India oil stones. NORTON EMERY WHEEL CO. See Advt.

ENGRAVING.

Half-Tone Work done artistically. WOODBURY-CARLTON CO., 4 Walnut Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

ENGINE LATHES.

Drilling Machines and engine lathes. PRENTICE BROTHERS, Cambridge Street. See Advt.

ENGINEERS.

Mill Buildings, Steel, Concrete Construction; Power Installations, THOMPSON & GALLAGHER, 339 Main St.

ENVELOPE MANUFACTURERS.

Envelopes and Envelope Specialties. LOGAN, SWIFT & BRIGHAM DIVISION. See Adv.

FIREARMS.

Guns and pistols of all kinds. HARRINGTON & RICHARDSON ARMS CO., Park Avenue. See Advt.

FOUNDRIES.

Light and heavy Iron Castings. JACKSON STREET FOUNDRY, J. A. Colvin, Prop., 52 Jackson Street.

GAS ENGINES.

Greendale Gas Engine Co., manufacturers of Gas and Gasoline Engines. S. F. BURLINGAME, Manager. Shop 'Phone 1063-2.

HARDWARE.

Wholesale and retail dealers in hardware and cutlery. DUNCAN & GOODELL CO., 404 Main Street. See Advt.

HEATING CONTRACTORS.

Ideal Boilers, steam and water. THE SINCLAIR CO., 28 Pearl Street. See Advt.

Acetylene Lighting—Plants installed. THE SINCLAIR CO., 28 Pearl Street. See Advt.

HOTEL.

Bay State House, European plan. C. W. RIPLEY, proprietor. See Advt.

IRON AND STEEL.

Supplies for blacksmiths, carriage-makers. GEO. F. BLAKE, JR., & CO. Office and storehouse Mechanic and Foster Streets. Tel. 2508-2509.

IRON FOUNDERS.

High Grade Machinery Castings. STANDARD FOUNDRY CO., Tainter Street. See Advt.

INSURANCE.

General insurance agency. CHARLES E. GRANT, Rooms 711 and 712 State Mutual Building.

Life Policies. STATE MUTUAL LIFE ASSURANCE CO. See Advt.

LEATHER AND CANVAS GOODS.

Suit Cases and Bags, Toilet Cases, Music Goods, Etc. WARREN LEATHER GOODS CO., 80 Austin Street.

LEATHER BELTING.

Hudson's extra oak-tanned Leather Belting always in stock. HUDSON BELTING CO., Eaton Place. See Advt.

LOOMS AND REPAIRS.

Looms and Repairs. CROMPTON & KNOWLES LOOM WORKS. See Advt.

LUMBER.

W. H. Sawyer Lumber Co. Hard Pine Timber a specialty. All kinds Finish constantly in kiln.

Stone & Foster Lumber Co., Central and Union Sts. General line of lumber, wholesale or retail.

MACHINE JOBBING.

Machine Jobbing, Special Machinery, Patents perfected. DAWSON MACHINE CO., 2 Sargent Street. See Advt.

MACHINE SCREWS.

Machine Screws in iron, steel and brass. WORCESTER MACHINE SCREW CO., Beacon Street. See Advt.

MACHINISTS' TOOLS.

Planers a specialty, Machine Tools, Lathes and Drills. J. S. WHEELER & CO., 23 Hermon Street.

Lathes, Punches and Shears. W. C. YOUNG, 17 Hermon Street.

METAL SPECIALTIES.

Stove Trimmings, steampipe collars and ferrules. MATTHEWS MFG. CO., 104 Gold Street. See Advt.

MILL SUPPLIES.

Crawford & Co., 665 Main Street. Everything in Mill Supplies, Wool Stock, Cotton and Cotton Waste.

OVERALLS.

Overalls, Shirts, Frocks, Etc. A. G. HILDRETH, 25 Hermon Street, Worcester, Mass.

PAINTS AND OILS.

Painters' Supplies and Lubricating Oils. F. M. HEATH & CO., 40 Southbridge St., opp. Post Office.

PATENT CURTAIN RODS.

Adjustable Curtain Rods and Sockets. FOWLER & CO., 65 Beacon Street, Worcester, Mass.

PRINTING.

Good Printing quickly executed. F. S. BLANCHARD & CO., 6 Walnut Street. See Advt.

Printing and Engraving, HURLEY'S PRINTERY, 38 and 44 Front Street.

Posters, Show Cards, Theatrical and Commercial Printing. C. R. STOBBS, 16 Mechanic Street.

Commercial Printing and Blank-book Work. O. B. WOOD, 50 Foster Street. See Advt.

RAILROADS.

Boston & Albany division of N. Y. C. & H. R. R. R. See Advt.

RAZORS.

Manufacturers of all styles, including Safety Razors. J. R. TORREY RAZOR CO., Chandler Street.

REEDS.

Organ Reeds and Reed Boards. HAMMOND REED CO., Worcester, Mass. See Advt.

RAZOR STROPS.

Manufacturers of all styles of Strops, also Stropping Machine. J. R. TORREY & CO., Chandler Street.

ROLLING MILLS.

Continuous Rolling Mills, Gas Producers and Wire Mill Machinery. MORGAN CONSTRUCTION CO. See Adv.

SHOE MANUFACTURERS.

Heywood, the Worcester made Shoe. HEYWOOD BOOT & SHOE CO., Retail Store 415 Main Street. See Advt.

SLIPPERS.

Shoes and Slippers, Barefoot Sandals. Felt footwear a specialty. WORCESTER SLIPPER CO., J. P. Grosvenor, Prop., 370 Park Avenue.

STAMPINGS.

Worcester Pressed Steel Co., North Ave.; take Barbers' Crossing car. Light and heavy Stampings in all metals.

STEAM AND GAS FITTERS.

Braman, Dow & Co., Contractors for Heating Apparatus, Steam, Water or Vapor. Mill Piping a specialty. 7 Washington Square.

STEAM AND GAS SUPPLIES.

Leading Makes of steam and hot water heaters. CENTRAL SUPPLY CO., 35 Waldo Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

SUIT CASES AND BAGS.

Largest and best variety, up-to-date in every respect. WARREN LEATHER GOODS CO.

TACKS AND NAILS.

Shoe Tacks, Hungarian Nails, Hob Nails. P. E. SOMERS, 17 Hermon Street, Worcester, Mass.

TAXIDERMIST.

Chas K. Reed, Naturalists' Supplies. 75 Thomas Street, corner Union, Worcester Mass.

VALENTINES.

Valentines, Holiday Goods, Easter Novelties. THE GEO. C. WHITNEY CO., 67 Union Street, Worcester.

WATER METERS.

The Best Known Meter. UNION WATER METER CO., Hermon Street. See Advt.

WIRE FLY KILLER.

Bigelow Wire Fly Killer. It kills but does not crush the fly. J. F. BIGELOW, 11 Foster Street.

WIRE GOODS.

Wire of all Kinds. SPENCER WIRE CO., Worcester and Spencer. See Advt.

Wire Goods and Wire Novelties. WORCESTER WIRE GOODS CO. See Advt.

Wire, wire cloth and poultry netting. WRIGHT WIRE CO., Worcester and Palmer. See Advt.

WOOL-SPINNING MACHINERY.

Johnson & Bassett, Wool-Spinning Machinery. 114 Foster Street, Worcester, Mass.

BANKS.

WORCESTER NATIONAL BANK, 9 Foster Street. Incorporated as a State Bank in 1804; as a National Bank in 1864. Capital $250,000; surplus and undivided profits $321,508.72. Dividends April and October; rate past year, 8 per cent. President, James P. Hamilton; Cashier, Samuel D. Spurr; Assistant Cashier, F. M. Hedden; Directors, A. George Bullock, Charles A. Chase, James P. Hamilton, Lincoln N. Kinnicutt, Edward L. Davis, George F. Brooks, Paul B. Morgan, Reginald Washburn, Matthew J. Whittall.

WORCESTER TRUST COMPANY, 344 Main Street. Incorporated in 1868. Capital $500,000; surplus $500,000. Dividends January, April, July, and October; rate past year, 6 per cent. William D. Luey, President; Henry A. Marsh, Nathaniel Paine, Henry P. Murray, Vice Presidents; Samuel H. Clary, Treasurer; Alvin J. Daniels, Secretary; Chairman of Board of Directors, Henry A. Marsh; Directors, Charles S. Barton, Geo. F. Blake, A. George Bullock, John H. Coes, Alexander DeWitt, Thomas B. Eaton, William Endicott, Jr., Henry F. Harris, Rockwood Hoar, C. Henry Hutchins, Lincoln N. Kinnicutt, Edwin T. Marble, J. Russel Marble, Neal Rantoul, Wm. H. Sawyer, Frank Bulkeley Smith, E. D. Thayer, Chas. M. Thayer, Robert M. Washburn, George W. Wells, M. J. Whittall, G. Marston Whitin, Charles A. Williams, Robert Winsor, A. W. Parmelee, A. O. Young.

PEOPLE'S SAVINGS BANK, 452 Main Street. Incorporated in 1864. Deposits February 1st, $11,450,000. Guaranty Fund $540,000. Number of depositors 24,234. Deposits put upon interest February, May, August and November 1st. Dividends payable February and August 2nd and added to the principal as of the 1st of those months if not withdrawn. President, Samuel R. Heywood; Treasurer, Charles M. Bent; Assistant Treasurer, Frederick W. White; Investment Committee, Samuel R. Heywood, Edwin T. Marble, Henry M. Harris, Charles M. Thayer, Alexander DeWitt.

THE WORCESTER MECHANICS SAVINGS BANK, Worcester, Mass. Organized, 1851. Officers: President, A. B. R. Sprague; Vice Presidents, John H. Coes, Thomas B. Eaton, Eli J. Whittemore; Treasurer, Frank W. Cutting; Trustees, A. B. R. Sprague, Thomas B. Eaton, Thomas G. Kent, Eli J. Whittemore, John H. Coes, Francis H. Dewey; Chas. A. Hill, Chas. F. Hanson, Geo. E. Merrill, Levis G. White, Francis W. Blacker, Henry S. Pratt, Arthur P. Rugg, Chas. D. Lamson.

WORCESTER FIVE CENTS SAVINGS BANK, 314 Main Street. Incorporated, April 1, 1854. Assets, $10,473,732.59; number of depositors, 34,421. Deposits received from five cents to $1000 and placed on interest January, April, July and October. Dividends payable on and after January 15 and July 15. President, Henry M. Witter; Vice Presidents, Simeon N. Story, Gilbert J. Rugg, Edwin Brown, Roger F. Upham, Otis E. Putnam, James Draper; Treasurer, J. Stewart Brown.

WORCESTER COUNTY INSTITUTION FOR SAVINGS, 13 Foster Street. Incorporated, February 5, 1828. Deposits, $19,014,022; assets, $20,414,156; number depositors, 39,955. Deposits put on interest January, April, July and October. Dividends payable January 15 and July 15. President, Chas. A. Chase; Vice Presidents, Edward L. Davis, Geo. E. Francis, Thos. H. Gage; Treasurer, Alfred L. Aiken; Board of Investment, Chas. A. Chase, Sam'l B. Woodward, Geo. E. Francis, Lyman A. Ely, A. George Bullock; Clerk of Corporation, Chas. F. Aldrich.

The Old Family Wine Store

SOLE MANUFACTURERS OF

G. F. H. PRIVATE STOCK WHISKEY

and

Cold Blast Ginger Ale

Write for Price List

GEO. F. HEWETT CO.

Established 1860
Telephone 2455

41, 43, 45 Waldo St., Worcester, Mass.

Boston & Albany RAILROAD
N. Y. C. & H. R. R. R., LESSEE.

NEW YORK CENTRAL LINES

PULLMAN SLEEPING CAR SERVICE TO THE ADIRONDACK MOUNTAINS

Buffet Sleeper leaves Boston 3.32 p.m.; Worcester 4.42; Springfield 6.24, daily except Sundays, via Boston & Albany and New York Central, for Lake Placid and Intermediate Points; due Childwold, 5.55 a.m.; Tupper Lake, 6.10; Saranac Inn, 6.48; Saranac Lake, 7.35; and Lake Placid, 8.10 a.m. Early morning breakfast from buffet. Close connection for the Northern Adirondacks.

Returning, Sleeper leaves Lake Placid 8.05 p.m. daily, except Saturday; due Boston 10.30 next morning. Dining Car Springfield to Boston.

Through Similar Service to the Thousand Islands

Beginning June 22, Pullman Sleeping Car line will be operated between Boston and Clayton, leaving Boston, Fridays only, 6.02 p.m.; Worcester, 7.10; Springfield, 8.33; due Clayton, 7.15 next morning. Dining Car, Boston to Springfield.

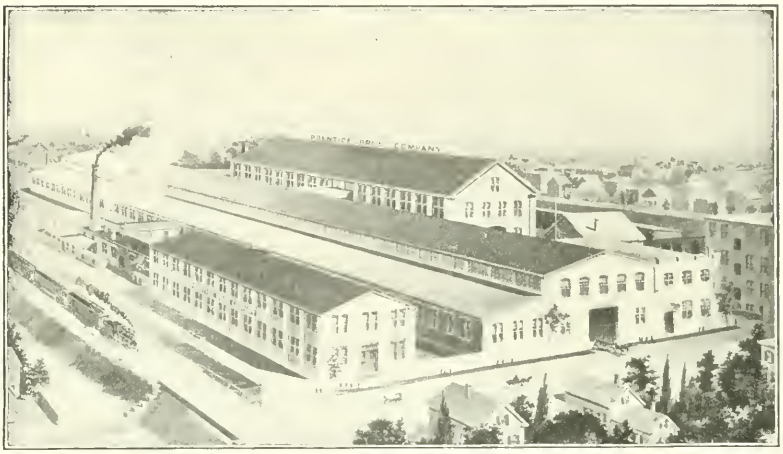
Returning, leaves Clayton, Sundays only, 9 p.m.; due Boston, 10.30 next morning. Dining Car, Springfield to Boston.

For additional train service, or illustrated literature descriptive of Thousand Islands resorts, call on or address A. J. CARROLL, Pass. Agt., 404 Main St., Springfield; J. E. SWEENEY, 385 Main St., Worcester; R. M. HARRIS, 366 Washington St., Boston.

A. S. HANSON, Gen. Pass. Agt., Boston.

PRENTICE BROS. COMPANY,

WORCESTER, MASS.



BUILDERS OF

DRILLING MACHINES AND ENGINE LATHES.

COATES CLIPPERS

Coates Hair Clippers and flexible transmission.

COATES CLIPPER MFG. CO., WORCESTER, MASS.

MATTHEWS MANUFACTURING COMPANY.

MANUFACTURERS OF

STOVE TRIMMINGS, BALL BEARINGS.

Steam-Pipe Collars, Ferrules and Sheet Metal Specialties.

104 Gold Street, Worcester, Mass.

A. T. MATTHEWS, Treasurer.

OUR NEW EQUIPMENT

Of Type and Fast Machines for HIGH GRADE PRINTING has been pronounced by experts to be one of the best in New England. We can please you in quality and price.

Commonwealth Press

O. B. WOOD

50 Foster Street, Worcester

Bay State House.

American and . .
.. European Plan

C. W. RIPLEY, Proprietor .·. WORCESTER, MASS.

WORCESTER

The Mecca of Manufacturers

Largest Manufacturing City in the United States not on a waterway—over 1000 Industrial Plants, employing 26,000 mechanics.

Has more than 3,000,000 people within a radius of 50 miles.

Has four great connecting Railroad Systems with superior shipping facilities.

Has 172 Passenger Trains a day.

Has 293 miles Street Railway Tracks, over which 30,000,000 passengers ride annually.

Has $52,000,000 deposits in Savings Banks, credited to 112,000 depositors.

Has Park System covering more than 1200 acres.

Has most beautiful Water Park in the country.

Has 210 miles of Streets, 176 miles of Sewers and 193 miles of Water Mains.

Has 95 Public Schools and institutions of higher education.

Has 25 Libraries with over 500,000 volumes.

The Largest Loom Works, Valentine, Emery Wheel, Envelope, Corset, Brussels Carpet, Paper-box Machinery, Wire-working, Card Clothing and Spring Plants in the World.

For further information regarding Worcester, write to

Secretary Worcester Board of Trade

WORCESTER, MASSACHUSETTS

HAMMOND REED COMPANY

MANUFACTURERS OF

Organ Reeds, Reed Boards and other Organ Supplies

Telegraph and Cable Address, "Reeds." Worcester, Mass., U. S. A. **WORCESTER, MASS.**

ST. JOHN'S CHURCH, NORTHAMPTON, MASS.
The Norcross Brothers Co., Builders, Worcester, Mass.

THE ONLY GROUND FLOOR PRINTING OFFICE IN THE CITY

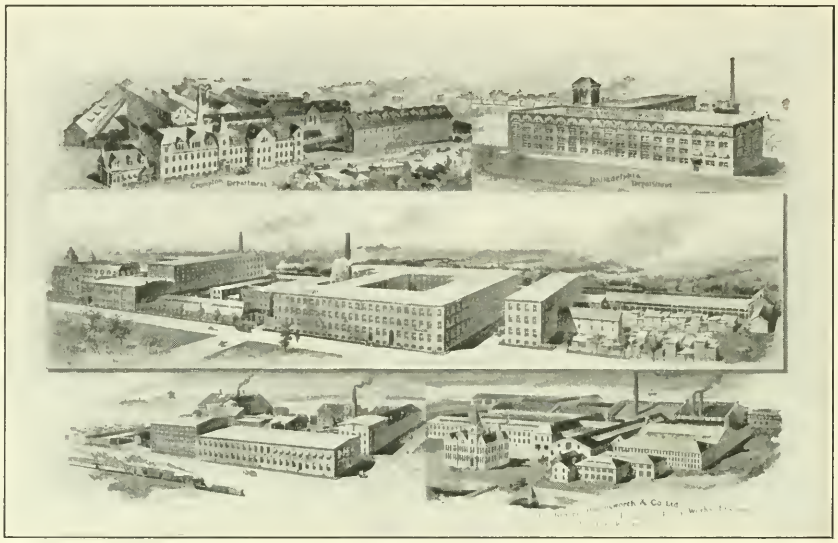
TROUBLES ALL OVER

If you put your commissions in our hands your Advertising Troubles will all be over. We are Catalogue and Booklet Builders from start to finish. You can get rid of that worried look if you say the word to

The Blanchard Press WORCESTER MASS.

The Blanchard Press
Six Walnut Street
Worcester, Mass.

LOOMS and REPAIRS



CROMPTON & KNOWLES LOOM WORKS
Worcester Providence Philadelphia

For Statistics of Worcester and List of Things Made

Write to the SECRETARY BOARD OF TRADE

The Worcester Magazine

Vol. IX. CONTENTS FOR AUGUST, 1906. No. 8

Frontispiece. General Devens' Equestrian Statue.

Municipal Comment.
- Honor to Soldier and Jurist, - - 157
- Clark University in Carnegie List, 157
- Invented the Monkey-wrench, - 158
- Provides for Marked Improvements, 158
- Worcester did its Part, - - - 159
- First Swim, then Paddle, - - 159
- Gave His Country Pure Food, - 159
- Keep Vacant Lots Clean, - - 160
- Graphic Story of a Vacation, - 160
- Medical Inspection in Public Schools, 161
- The Uses of Green Hill Mansion, 161
- Trial by Newspapers, - - - 161
- Development of Playground Idea, 162
- Commission for Grade Schools, - 162

General Devens' Statue Unveiled, 163

Medical Inspection in the Public Schools. By J. L., - - - 167

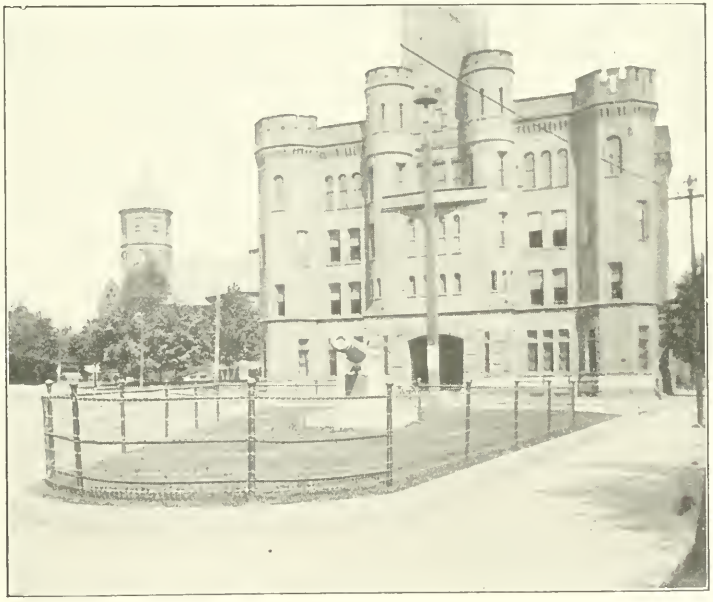
Loring Coes, Veteran Manufacturer, 171

Worcester's Future Water Supply. By Frederick A. McClure, - - 174

Board of Trade Notes, - - - 174

Published monthly by the Worcester Board of Trade, 11 Foster Street, Worcester, Mass. Committee on Publication, Rufus B. Fowler, G. Stanley Hall, Irving E. Comins, Milton P. Higgins, George W. Mackintire. Terms $1.00 a year; single copies, 10 cents. For sale by newsdealers. Entered at the Post Office, Worcester, Mass., as second-class matter, May 10, 1901.

ORNAMENTAL and SPECIAL FENCING
WIRE and WROUGHT IRON

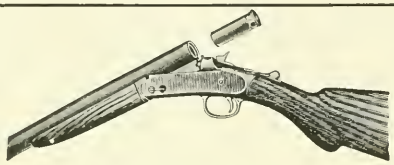


No. 6 Anchor Fence at Santiago Monument, Worcester Armory.
FLOWER BED GUARD, TREE GUARDS, TRELLIS.
N. E. ANCHOR FENCE CO., Dept. of Spencer Wire Co.,
91 Webster St., Worcester, Mass. Tel. 2665.

In writing to advertisers, please mention the Worcester Magazine.

That Office Help Is a source of continual anxiety to the business man unless he has the best. Poor help costs more than good help does. **Becker's Business College** has turned out the best class of help employed in Worcester. When in need of such help send to Becker's—the school giving the strongest business training in New England.

Telephone 378-3 **E. C. A. BECKER, Prop.**



Established 1871. Incorporated 1888.

HARRINGTON & RICHARDSON ARMS CO.,

MANUFACTURERS OF

FIREARMS.

Descriptive Catalogue on request. **Worcester, Mass., U. S. A.**

Logan, Swift & Brigham

ENVELOPE CO. DIVISION

Worcester, Massachusetts

MANUFACTURERS OF STANDARD

... Envelopes ...

The Outlook Envelope

Insures economy and absolute accuracy in the addressing of all your mail matter.

The Improved Columbian Clasp Envelope

The best and most satisfactory Merchandise Envelope made.

Specialists in STEEL DIE STAMPING

for Commercial Work. Samples and Prices of our Standard Goods furnished by your Stationer or Printer.

PETER WOOD, Pres. and Treas.

THE PETER WOOD DYEING COMPANY

Bleachers and Dyers of

COTTON, YARNS and WARPS, THREADS, TAPES, BRAIDS, ETC.

Dyers of Alizarine and Indigo Colors

Works on Holmes Street WORCESTER, MASS.

Worcester Has More Than 1000 Manufacturing Plants

Employing 26,000 Wage Earners

Its Annual Pay-roll is $13,000,000

The Value of Products annually produced is upward of $54,000,000

Write the Board of Trade for Particulars

"Everything in Wire"

We manufacture from steel and brass wire a salable line of Hardware and Kitchen Goods Specialties, Belt Hooks; Universal, Jack and Plumbers' Chains; Coat and Hat Hooks; Garment Hangers; Blind Fixtures; Kitchen Wire Goods; Wire Nails, Tacks and Staples. Our line on sale at all Hardware and Department Stores. Special Goods made to order from wire.

The Wire Goods Company

WORCESTER, MASSACHUSETTS

NORTON GRINDING WHEELS

are made of

Features:

Hardness

Sharpness

Uniformity

ALUNDUM
TRADE MARK
NORTON
REGISTERED
MADE BY ELECTRIC PROCESS
PATENTED

Newest

and

Best

Abrasive

NORTON COMPANY,

FORMERLY

NORTON EMERY WHEEL COMPANY.

WORCESTER, MASS.

Plunger Elevator Co.,

Safe, Long-Lived, Economical, High-Speed Passenger Elevators a Specialty. . . . . .

Hydraulic Plunger

ELEVATORS.

OFFICE AND FACTORY.

BARBER'S, WORCESTER, MASS

The Smith, Green Company

R. C. CLEVELAND, President and Treasurer

Office, Yards and Warehouses: 32 Bloomingdale Road, Worcester, Mass.

Wholesale and Retail Builders' Supplies

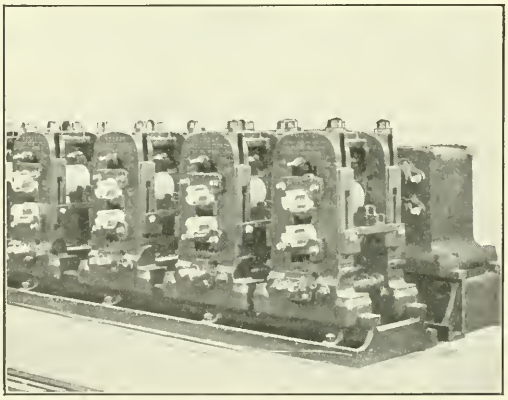
PROPRIETORS OF

Elastic Pulp Plaster Manufacturing Company

Manufacturers of

ELASTIC PULP PLASTER

The only perfect Wall Plaster in the world



MORGAN CONTINUOUS ROLL TRAIN.

Continuous Rolling Mills

Continuous Heating Furnaces

Continuous Gas Producers

Wire Mill Machinery

MORGAN CONSTRUCTION COMPANY

WORCESTER, MASS.

New York Office:
40 EXCHANGE PLACE

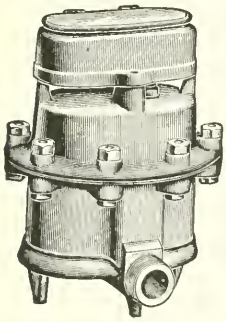
European Office:
52 RUE DE CONGRES, BRUSSELS

PHOTOGRAPHING & RETOUCHING · MACHINERY ETC

Half Tones
WOODBURY-CARLTON CO
made at No. 4 Walnut St.

DESIGNS BIRDS' EYE VIEWS ART PRINT

UNION WATER METER CO.,



BENJAMIN F. OTIS, Pres. and Manager.
EDW. P. KING, Treas. and Supt.

Water Meters.

WORCESTER, MASS.

WORCESTER MACHINE SCREW CO.,

STANDARD SCREW CO. SUCCESSORS.

MANUFACTURERS OF

SET, CAP AND MACHINE

SCREWS

IN IRON, STEEL AND BRASS.

STUDS FOR STEAM ENGINES, PUMPS, ETC.

WORCESTER, MASS.

HATCH & BARNES CO.,

MANUFACTURERS OF

Doors, Sash, Blinds

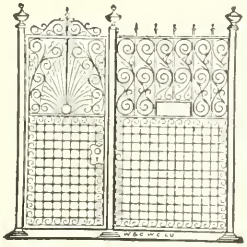
AND FINE BUILDERS' FINISH.

Practical Stair Builders. Newels, Balusters and Rails constantly on hand and made to order. Wood Turning a specialty.

Office, 196 Union Street, WORCESTER, MASS.

WRIGHT WIRE CO.

WIRE AND WIRE CLOTH



WIRE GUARD WORK.

Elevator Cabs and Enclosures

Coal Screens and Riddles.

POULTRY NETTING.

WORCESTER, MASS. PALMER, MASS

Duncan & Goodell Co.,

WHOLESALERS AND RETAILERS IN

Hardware and Cutlery.

We have the finest line of Table and Pocket Cutlery, also highest grade of Scissors, including all kinds from Finest Manicure Scissors to Tailors' Shears, to be seen in Worcester.

We make a specialty of Builders' Hardware and Supplies, and carry in stock a large line of best quality door and window trimmings.

404 Main Street, Cor. Pearl.

The most favorable place for the location of a Manufacturing Business.

Worcester

Massachusetts

Water Rate To Manufacturers Ten Cents per 1000 Gallons.

Central Location.

Unrivalled Railroad Facilities.

High-Grade Mechanics.

Unfailing Supply of Help.

Superior Schools the Attraction for Labor.

For further information address

Secretary,
Board of Trade.

WORCESTER BUSINESS DIRECTORY.

MANUFACTURERS AND DEALERS.

AGRICULTURAL IMPLEMENTS.

Worcester Kemp Manure Spreader, Buckeye Mower, Bullard Hay Tedder, Worcester Rake. RICHARDSON MANUFACTURING CO., 84 Prescott St., Worcester.

ARCHITECTS.

George H. Clemence, Architect. Walker Building, Room 205, 405 Main Street, Worcester, Mass.

Stephen C. Earle, Architect, Room 45, Burnside Building, 339 Main Street, Worcester, Mass.

Fuller & Delano Company, Architects, 452 Main St. Worcester, Mass. Ward P. Delano, Robt. L. Fuller

Clellan Waldo Fisher, Architect. Office, 718 State Mutual Building, Worcester.

Frost, Briggs & Chamberlain, Architects, Offices 518 Main Street, Knowles Building, Worcester, Mass.

ASH SIFTERS.

"Hustler" Ash Sifter. HILL DRYER CO., 340-350 Park Avenue, Worcester, Mass.

BALL BEARINGS.

Worcester Pressed Steel Co., North Ave.; take Barber's Crossing Car. Automobile and Bicycle Parts. Metal Stampings.

BANKS.

People's Savings Bank, 452 Main Street. See Advt.

Worcester County Institution for Savings, 13 Foster St. See Advt.

Worcester Five Cents Savings Bank, 314 Main St. See Advt.

Worcester Mechanics Savings Bank, 311 Main St. See Advt.

Worcester National Bank, 9 Foster Street, See Advt.

Worcester Trust Co., 448 Main Street. See Advt.

BELTING.

Oak tanned leather belting always in stock. GRATON & KNIGHT MFG. CO., Bloomingdale Road. See Advt.

Pure Oak Bark Tanned Leather Belting. Special Waterproof Belting, "B. & F." Belting, Dynamo Belts and other specials. Mill Supplies. J. F. & W. H. WARREN CO., 44 Vine Street, Worcester, Mass.

BLACKSMITHS.

Common Sense Shoeing Forge. JOHN J. GRADY, 162 Mechanic Street. Tel. 1028-6.

BOLTS AND NUTS.

Bolts, cold punched nuts and washers, die making and metal punching. THOMAS SMITH CO., Frank W. Foye, 14 Cypress Street.

BOOK BINDERY.

Book Binders and Paper Rulers. J. S. WESBY & SONS, 387 Main Street and 50 Foster Street.

BUILDERS' FINISH.

Doors, sash, blinds, and fine builders' finish. HATCH & BARNES CO., 196 Union Street. See Advt.

BUILDERS' SUPPLIES.

Builders' Supplies. SMITH, GREEN CO., 32 Bloomingdale Road. See Advt.

BUSINESS COLLEGES.

Bookkeepers, stenographers and typewriters. BECKER'S BUSINESS COLLEGE, 492 Main St. See Advt.

Business Men when in need of carefully trained Bookkeepers and Stenographers apply to C. B. POST, WORCESTER BUSINESS INSTITUTE, 476 Main Street.

CALENDARS.

Advertising Calendars, Blotters, Circulars, Booklets, Mailing Cards, Etc. PROGRESS PUB. CO., 377 Main St.

CHAINS.

Jack Chains, Ladder Chains, all kinds of Metal. HALE BROTHERS COMPANY, 42 Lagrange Street.

CLOTHES DRYERS.

For Lawn, Balcony or Roof. HILL DRYER CO., 340 to 350 Park Avenue, Worcester, Mass.

CONTRACTORS AND BUILDERS.

Builders of public, commercial and manufacturing buildings and private residences. J. W. BISHOP CO., Worcester, Boston, Providence, New York.

E. J. Cross, General Contractor. Estimates furnished on any class of buildings. Office, 82 Foster Street, Worcester.

Public and mercantile buildings a specialty. THE NORCROSS BROS. CO. See Advt.

DECORATORS AND PAINTERS.

Artistic frescoing and decorating of churches, halls and residences, sign and house painting. SANDGREN & EHNBORG, 274 Main Street. Tel. 983-4.

ELECTRICAL ENGINEERS AND CONTRACTORS.

Electrical Contractors and Dealers in Supplies. We install Dynamos and Motors, Telephones, Lighting, Etc. PAGE ELECTRIC CO., 24 Pearl Street.

Electrical Supplies, construction Automatic Telephone Systems. PLUMMER, HAM & RICHARDSON, 619 Main Street.

ELECTRIC LIGHT AND POWER.

Electric Light and Power supplied by WORCESTER ELECTRIC LIGHT COMPANY, 66 Faraday Street, Worcester, Mass.

ELEVATORS.

Hydraulic plunger elevators. PLUNGER ELEVATOR CO., Barber's. See Advt.

EMERY WHEELS.

Grinding Wheels, grinding machinery and India oil stones. NORTON EMERY WHEEL CO. See Advt.

ENGRAVING.

Half-Tone Work done artistically. WOODBURY-CARLTON CO., 4 Walnut Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

ENGINE LATHES.

Drilling Machines and engine lathes. PRENTICE BROTHERS, Cambridge Street. See Advt.

ENGINEERS.

Mill Buildings, Steel, Concrete Construction; Power Installations, THOMPSON & GALLAGHER, 339 Main St.

ENVELOPE MANUFACTURERS.

Envelopes and Envelope Specialties. LOGAN, SWIFT & BRIGHAM DIVISION. See Adv.

FIREARMS.

Guns and pistols of all kinds. HARRINGTON & RICHARDSON ARMS CO., Park Avenue. See Advt.

FOUNDRIES.

Light and heavy Iron Castings. JACKSON STREET FOUNDRY, J. A. Colvin, Prop., 52 Jackson Street.

GAS ENGINES.

Greendale Gas Engine Co., manufacturers of Gas and Gasoline Engines. S. F. BURLINGAME, Manager. Shop 'Phone 1063-2.

HARDWARE.

Wholesale and retail dealers in hardware and cutlery. DUNCAN & GOODELL CO., 404 Main Street. See Advt.

HEATING CONTRACTORS.

Ideal Boilers, steam and water. THE SINCLAIR CO., 28 Pearl Street. See Advt.

Acetylene Lighting—Plants installed. THE SINCLAIR CO., 28 Pearl Street. See Advt.

HOTEL.

Bay State House, European plan. C. W. RIPLEY, proprietor. See Advt.

IRON AND STEEL.

Supplies for blacksmiths, carriage-makers. GEO. F. BLAKE, JR., & CO. Office and storehouse Mechanic and Foster Streets. Tel. 2508-2509.

IRON FOUNDERS.

High Grade Machinery Castings. STANDARD FOUNDRY CO., Tainter Street. See Advt.

INSURANCE.

General insurance agency. CHARLES E. GRANT, Rooms 711 and 712 State Mutual Building.

Life Policies. STATE MUTUAL LIFE ASSURANCE CO. See Advt.

LEATHER AND CANVAS GOODS.

Suit Cases and Bags, Toilet Cases, Music Goods, Etc. WARREN LEATHER GOODS CO., 80 Austin Street.

LEATHER BELTING.

Hudson's extra oak-tanned Leather Belting always in stock. HUDSON BELTING CO., Eaton Place. See Advt.

LOOMS AND REPAIRS.

Looms and Repairs. CROMPTON & KNOWLES LOOM WORKS. See Advt.

LUMBER.

W. H. Sawyer Lumber Co. Hard Pine Timber a specialty. All kinds Finish constantly in kiln.

Stone & Foster Lumber Co., Central and Union Sts. General line of lumber, wholesale or retail.

MACHINE JOBBING.

Machine Jobbing, Special Machinery, Patents perfected. DAWSON MACHINE CO., 2 Sargent Street. See Advt.

MACHINE SCREWS.

Machine Screws in iron, steel and brass. WORCESTER MACHINE SCREW CO., Beacon Street. See Advt.

MACHINISTS' TOOLS.

Planers a specialty, Machine Tools, Lathes and Drills. J. S. WHEELER & CO., 23 Hermon Street.

Lathes, Punches and Shears. W. C. YOUNG, 17 Hermon Street.

METAL SPECIALTIES.

Stove Trimmings, steampipe collars and ferrules. MATTHEWS MFG. CO., 104 Gold Street. See Advt.

MILL SUPPLIES.

Crawford & Co., 665 Main Street. Everything in Mill Supplies, Wool Stock, Cotton and Cotton Waste.

OVERALLS.

Overalls, Shirts, Frocks, Etc. A. G. HILDRETH, 25 Hermon Street, Worcester, Mass.

PAINTS AND OILS.

Painters' Supplies and Lubricating Oils. F. M. HEATH & CO., 40 Southbridge St., opp. Post Office.

PATENT CURTAIN RODS.

Adjustable Curtain Rods and Sockets. FOWLER & CO., 65 Beacon Street, Worcester, Mass.

PRINTING.

Good Printing quickly executed. F. S. BLANCHARD & CO., 6 Walnut Street. See Advt.

Printing and Engraving, HURLEY'S PRINTERY, 38 and 44 Front Street.

Posters, Show Cards, Theatrical and Commercial Printing. C. R. STOBBS, 16 Mechanic Street.

Commercial Printing and Blank-book Work. O. B. WOOD, 50 Foster Street. See Advt.

RAILROADS.

Boston & Albany division of N. Y. C. & H. R. R. R. See Advt.

RAZORS.

Manufacturers of all styles, including Safety Razors. J. R. TORREY RAZOR CO., Chandler Street.

REEDS.

Organ Reeds and Reed Boards. HAMMOND REED CO., Worcester, Mass. See Advt.

RAZOR STROPS.

Manufacturers of all styles of Strops, also Stropping Machine. J. R. TORREY & CO., Chandler Street.

ROLLING MILLS.

Continuous Rolling Mills, Gas Producers and Wire Mill Machinery. MORGAN CONSTRUCTION CO. See Adv.

SHOE MANUFACTURERS.

Heywood, the Worcester made Shoe. HEYWOOD BOOT & SHOE CO., Retail Store 415 Main Street. See Advt.

SLIPPERS.

Shoes and Slippers, Barefoot Sandals. Felt footwear a specialty. WORCESTER SLIPPER CO., J. P. Grosvenor, Prop., 370 Park Avenue.

STAMPINGS.

Worcester Pressed Steel Co., North Ave.; take Barbers' Crossing car. Light and heavy Stampings in all metals.

STEAM AND GAS FITTERS.

Braman, Dow & Co., Contractors for Heating Apparatus, Steam, Water or Vapor. Mill Piping a specialty. 7 Washington Square.

STEAM AND GAS SUPPLIES.

Leading Makes of steam and hot water heaters. CENTRAL SUPPLY CO., 35 Waldo Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

SUIT CASES AND BAGS.

Largest and best variety, up-to-date in every respect. WARREN LEATHER GOODS CO.

TACKS AND NAILS.

Shoe Tacks, Hungarian Nails, Hob Nails. P. E. SOMERS, 17 Hermon Street, Worcester, Mass.

TAXIDERMIST.

Chas K. Reed, Naturalists' Supplies. 75 Thomas Street, corner Union, Worcester Mass.

VALENTINES.

Valentines, Holiday Goods, Easter Novelties. THE GEO. C. WHITNEY CO., 67 Union Street, Worcester.

WATER METERS.

The Best Known Meter. UNION WATER METER CO., Hermon Street. See Advt.

WIRE FLY KILLER.

Bigelow Wire Fly Killer. It kills but does not crush the fly. J. F. BIGELOW, 11 Foster Street.

WIRE GOODS.

Wire of all Kinds. SPENCER WIRE CO., Worcester and Spencer. See Advt.

Wire Goods and Wire Novelties. WORCESTER WIRE GOODS CO. See Advt.

Wire, wire cloth and poultry netting. WRIGHT WIRE CO., Worcester and Palmer. See Advt.

WOOL-SPINNING MACHINERY.

Johnson & Bassett, Wool-Spinning Machinery. 114 Foster Street, Worcester, Mass.

BANKS.

WORCESTER NATIONAL BANK, 9 Foster Street. Incorporated as a State Bank in 1804; as a National Bank in 1864. Capital $250,000; surplus and undivided profits $321,508.72. Dividends April and October; rate past year, 8 per cent. President, James P. Hamilton; Cashier, Samuel D. Spurr; Assistant Cashier, F. M. Hedden; Directors, A. George Bullock, Charles A. Chase, James P. Hamilton, Lincoln N. Kinnicutt, Edward L. Davis, George F. Brooks, Paul B. Morgan, Reginald Washburn, Matthew J. Whittall.

WORCESTER TRUST COMPANY, 344 Main Street. Incorporated in 1868. Capital $500,000; surplus $500,000. Dividends January, April, July, and October; rate past year, 6 per cent. William D. Luey, President; Henry A. Marsh, Nathaniel Paine, Henry P. Murray, Vice Presidents; Samuel H. Clary, Treasurer; Alvin J. Daniels, Secretary; Chairman of Board of Directors, Henry A. Marsh; Directors, Charles S. Barton, Geo. F. Blake, A. George Bullock, John H. Coes, Alexander DeWitt, Thomas B. Eaton, William Endicott, Jr., Henry F. Harris, Rockwood Hoar, C. Henry Hutchins, Lincoln N. Kinnicutt, Edwin T. Marble, J. Russel Marble, Neal Rantoul, Wm. H. Sawyer, Frank Bulkeley Smith, E. D. Thayer, Chas. M. Thayer, Robert M. Washburn, George W. Wells, M. J. Whittall, G. Marston Whitin, Charles A. Williams, Robert Winsor, A. W. Parmelee, A. O. Young.

PEOPLE'S SAVINGS BANK, 452 Main Street. Incorporated in 1864. Deposits February 1st, $11,450,000. Guaranty Fund $540,000. Number of depositors 24,234. Deposits put upon interest February, May, August and November 1st. Dividends payable February and August 2nd and added to the principal as of the 1st of those months if not withdrawn. President, Samuel R. Heywood; Treasurer, Charles M. Bent; Assistant Treasurer, Frederick W. White; Investment Committee, Samuel R. Heywood, Edwin T. Marble, Henry M. Harris, Charles M. Thayer, Alexander DeWitt.

THE WORCESTER MECHANICS SAVINGS BANK, Worcester, Mass. Organized, 1851. Officers: President, A. B. R. Sprague; Vice Presidents, John H. Coes, Thomas B. Eaton, Eli J. Whittemore; Treasurer, Frank W. Cutting; Trustees, A. B. R. Sprague, Thomas B. Eaton, Thomas G. Kent, Eli J. Whittemore, John H. Coes, Francis H. Dewey, Chas. A. Hill, Chas. F. Hanson, Geo. E. Merrill, Levis G. White, Francis W. Blacker, Henry S. Pratt, Arthur P. Rugg, Chas. D. Lamson.

WORCESTER FIVE CENTS SAVINGS BANK, 314 Main Street. Incorporated, April 1, 1854. Assets, $10,473,732.59; number of depositors, 34,421. Deposits received from five cents to $1000 and placed on interest January, April, July and October. Dividends payable on and after January 15 and July 15. President, Henry M. Witter; Vice Presidents, Simeon N. Story, Gilbert J. Rugg, Edwin Brown, Roger F. Upham, Otis E. Putnam, James Draper; Treasurer, J. Stewart Brown.

WORCESTER COUNTY INSTITUTION FOR SAVINGS, 13 Foster Street. Incorporated, February 5, 1828. Deposits, $19,014,022; assets, $20,414,156; number depositors, 39,955. Deposits put on interest January, April, July and October. Dividends payable January 15 and July 15. President, Chas. A. Chase; Vice Presidents, Edward L. Davis, Geo. E. Francis, Thos. H. Gage; Treasurer, Alfred L. Aiken; Board of Investment, Chas. A. Chase, Sam'l B. Woodward, Geo. E. Francis, Lyman A. Ely, A. George Bullock; Clerk of Corporation, Chas. F. Aldrich.

The Old Family Wine Store

SOLE MANUFACTURERS OF

G. F. H. PRIVATE STOCK WHISKEY

and

Cold Blast Ginger Ale

Write for Price List

GEO. F. HEWETT CO.

Established 1860
Telephone 2455

41, 43, 45 Waldo St., Worcester, Mass.

Boston & Albany RAILROAD
N. Y. C. & H. R. R. R., LESSEE.

NEW YORK CENTRAL LINES

PULLMAN SLEEPING CAR SERVICE TO THE ADIRONDACK MOUNTAINS

Buffet Sleeper leaves Boston 3.32 p.m.; Worcester 4.42; Springfield 6.24, daily except Sundays, via Boston & Albany and New York Central, for Lake Placid and Intermediate Points; due Childwold, 5.55 a.m.; Tupper Lake, 6.10; Saranac Inn, 6.48; Saranac Lake, 7.35; and Lake Placid, 8.10 a.m. Early morning breakfast from buffet. Close connection for the Northern Adirondacks.

Returning, Sleeper leaves Lake Placid 8.05 p.m. daily, except Saturday; due Boston 10.30 next morning. Dining Car Springfield to Boston.

Through Similar Service to the Thousand Islands

Beginning June 22, Pullman Sleeping Car line will be operated between Boston and Clayton, leaving Boston, Fridays only, 6.02 p.m.; Worcester, 7.10; Springfield, 8.33; due Clayton, 7.15 next morning. Dining Car, Boston to Springfield.

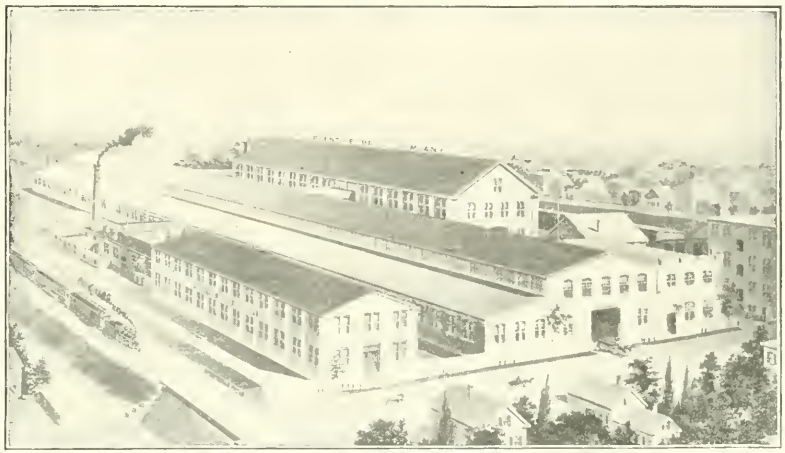
Returning, leaves Clayton, Sundays only, 9 p.m.; due Boston, 10.30 next morning. Dining Car, Springfield to Boston.

For additional train service, or illustrated literature descriptive of Thousand Islands resorts, call on or address A. J. CARROLL, Pass. Agt., 404 Main St., Springfield; J. E. SWEENEY, 385 Main St., Worcester; R. M. HARRIS, 366 Washington St., Boston.

A. S. HANSON, Gen. Pass. Agt., Boston.

PRENTICE BROS. COMPANY,

WORCESTER, MASS.



BUILDERS OF

DRILLING MACHINES AND ENGINE LATHES.

COATES CLIPPERS

Coates Hair Clippers and flexible transmission.

COATES CLIPPER MFG. CO., WORCESTER, MASS.

MATTHEWS MANUFACTURING COMPANY,

MANUFACTURERS OF

STOVE TRIMMINGS,
BALL BEARINGS,

Steam-Pipe Collars,
Ferrules and
Sheet Metal Specialties.

104 Gold Street, Worcester, Mass.
A. T. MATTHEWS, Treasurer.

Commonwealth Press

An establishment fitted for

High Grade Printing

at a minimum cost

Once a customer, always one

O. B. WOOD, Proprietor

50 FOSTER ST., WORCESTER

Bay State House.

American and . .
.. European Plan

C. W. RIPLEY, Proprietor .·. WORCESTER, MASS.

WORCESTER

The Mecca of Manufacturers

Largest Manufacturing City in the United States not on a waterway—over 1000 Industrial Plants, employing 26,000 mechanics.

Has more than 3,000,000 people within a radius of 50 miles.

Has four great connecting Railroad Systems with superior shipping facilities.

Has 172 Passenger Trains a day.

Has 293 miles Street Railway Tracks, over which 30,000,000 passengers ride annually.

Has $52,000,000 deposits in Savings Banks, credited to 112,000 depositors.

Has Park System covering more than 1200 acres.

Has most beautiful Water Park in the country.

Has 210 miles of Streets, 176 miles of Sewers and 193 miles of Water Mains.

Has 95 Public Schools and institutions of higher education.

Has 25 Libraries with over 500,000 volumes.

The Largest Loom Works, Valentine, Emery Wheel, Envelope, Corset, Brussels Carpet, Paper-box Machinery, Wire-working, Card Clothing and Spring Plants in the World.

For further information regarding Worcester, write to

Secretary Worcester Board of Trade

WORCESTER, MASSACHUSETTS

HAMMOND REED COMPANY

MANUFACTURERS OF

Organ Reeds, Reed Boards and other Organ Supplies

Telegraph and Cable Address, "Reeds," Worcester, Mass., U. S. A. **WORCESTER, MASS.**

ST. JOHN'S CHURCH, NORTHAMPTON, MASS.
The Norcross Brothers Co., Builders, Worcester, Mass.

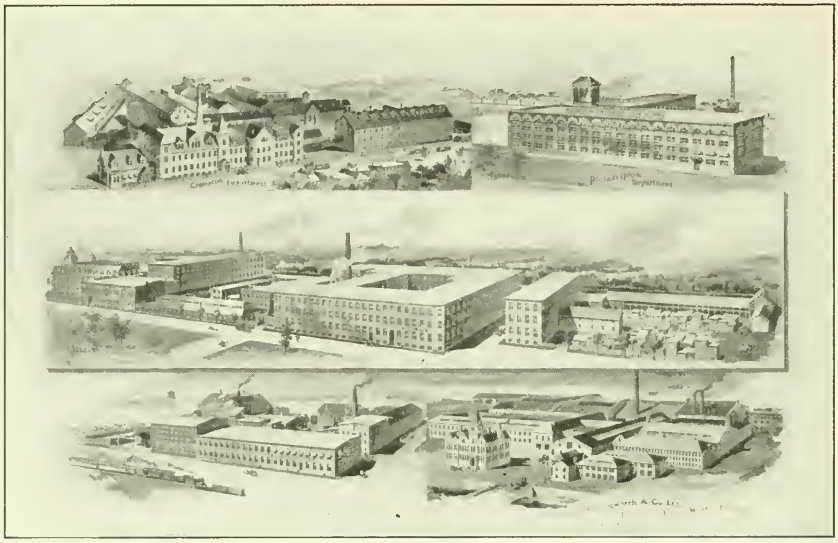
Printing

as printing ought
to be

The Blanchard Press

Six Walnut Street, Worcester, Mass.

LOOMS and REPAIRS



CROMPTON & KNOWLES LOOM WORKS

Worcester Providence Philadelphia

For Statistics of Worcester and List of Things Made

Write to the SECRETARY BOARD OF TRADE

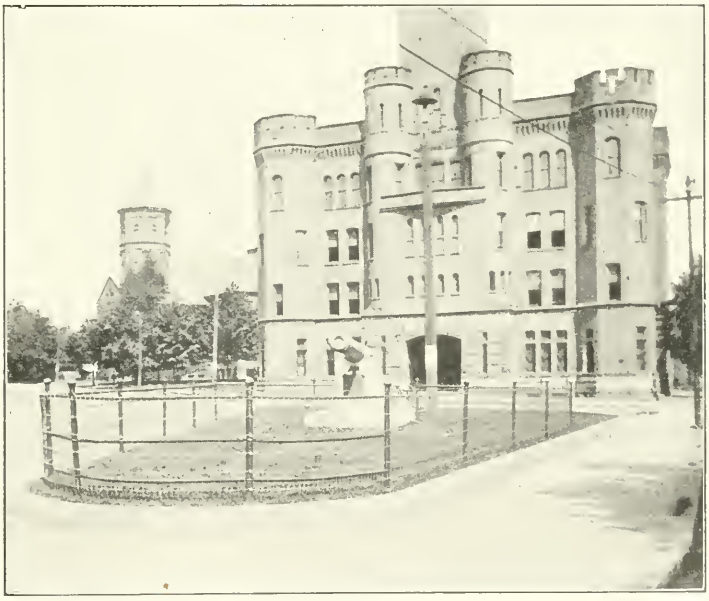
The Worcester Magazine

Vol. IX. CONTENTS FOR SEPTEMBER, 1906. No. 9

Frontispiece. Memorial Gate at Elm Park.
Municipal Comment.
Memorial Gate at Elm Park, 179
Value of a Technical Education, 179
The Laborer and the Public School, 180
Portland Likes our System, 180
Oarsmen Want a Bridge too, 181
The Age of Investigation, 182
Tax Rate Goes Still Lower, 182
Governor Folk's Advice to Merchants, 183
Important Railroad Matters Adjusted, 183
Worcester Gets Two More Representatives, 184
Not a Commercial Benefit in Boston, 184
Receives Benefits from Carnegie Fund, 184
Value of a Technical Education. By Hon. Charles G. Washburn, 185
Worcester Music Festival of 1906, 188
Harvard's Oldest Graduate, 190
Prosperity of a Nation, 193
Board of Trade Notes, 197

Published monthly by the Worcester Board of Trade, 11 Foster Street, Worcester, Mass. Committee on Publication, Rufus B. Fowler, G. Stanley Hall, Irving E. Comins, Milton P. Higgins, George W. Mackintire. Terms $1.00 a year; single copies, 10 cents. For sale by newsdealers. Entered at the Post Office, Worcester, Mass., as second-class matter, May 10, 1901.

ORNAMENTAL and SPECIAL FENCING
WIRE and WROUGHT IRON

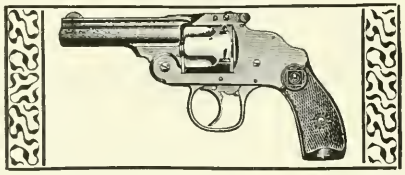


No. 6 Anchor Fence at Santiago Monument, Worcester Armory.
FLOWER BED GUARD, TREE GUARDS, TRELLIS.
N. E. ANCHOR FENCE CO., Dept. of Spencer Wire Co.,
91 Webster St., Worcester, Mass. Tel. 2665.

In writing to advertisers, please mention the Worcester Magazine.

That Office Help Is a source of continual anxiety to the business man unless he has the best. Poor help costs more than good help does. **Becker's Business College** has turned out the best class of help employed in Worcester. When in need of such help send to Becker's—the school giving the strongest business training in New England.

Telephone 378-3 **E. C. A. BECKER, Prop.**



Established 1871. Incorporated 1888.

HARRINGTON & RICHARDSON ARMS CO.,

Manufacturers of

FIREARMS.

Descriptive Catalogue on request. WORCESTER, MASS., U. S. A.

Logan, Swift & Brigham

ENVELOPE CO. DIVISION

Worcester, Massachusetts

MANUFACTURERS OF STANDARD

... Envelopes ...

The Outlook Envelope

Insures economy and absolute accuracy in the addressing of all your mail matter.

The Improved Columbian Clasp Envelope

The best and most satisfactory Merchandise Envelope made.

Specialists in STEEL DIE STAMPING

for Commercial Work. Samples and Prices of our Standard Goods furnished by your Stationer or Printer.

PETER WOOD, Pres. and Treas.

THE PETER WOOD DYEING COMPANY

Bleachers and Dyers of

COTTON, YARNS and WARPS, THREADS, TAPES, BRAIDS, ETC.

Dyers of Alizarine and Indigo Colors

Works on Holmes Street **WORCESTER, MASS.**

Worcester Has More Than 1000 Manufacturing Plants

Employing 26,000 Wage Earners

Its Annual Pay-roll is $13,000,000

The Value of Products annually produced is upward of $54,000,000

Write the Board of Trade for Particulars

"Everything in Wire"

We manufacture from steel and brass wire a salable line of Hardware and Kitchen Goods Specialties, Belt Hooks; Universal, Jack and Plumbers' Chains; Coat and Hat Hooks; Garment Hangers; Blind Fixtures; Kitchen Wire Goods; Wire Nails, Tacks and Staples. Our line on sale at all Hardware and Department Stores. Special Goods made to order from wire.

The Wire Goods Company

WORCESTER, MASSACHUSETTS

NORTON GRINDING WHEELS

are made of

Features:

Hardness

Sharpness

Uniformity

Newest

and

Best

Abrasive

NORTON COMPANY,

FORMERLY

NORTON EMERY WHEEL COMPANY.

WORCESTER, MASS.

Plunger Elevator Co.,

Safe, Long-Lived, Economical, High-Speed Passenger Elevators a Specialty. . . . . .

Hydraulic Plunger

ELEVATORS.

OFFICE AND FACTORY.

BARBER'S, WORCESTER, MASS

The Smith, Green Company

R. C. CLEVELAND, President and Treasurer

Office, Yards and Warehouses: 32 Bloomingdale Road, Worcester, Mass.

Wholesale and Retail Builders' Supplies

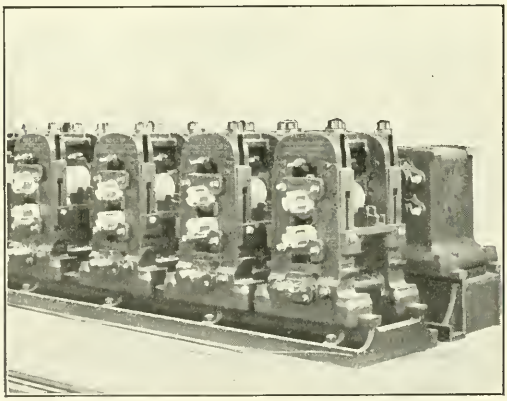
PROPRIETORS OF

Elastic Pulp Plaster Manufacturing Company

Manufacturers of

ELASTIC PULP PLASTER

The only perfect Wall Plaster in the world



MORGAN CONTINUOUS ROLL TRAIN.

Continuous Rolling Mills

Continuous Heating Furnaces

Continuous Gas Producers

Wire Mill Machinery

MORGAN CONSTRUCTION COMPANY

WORCESTER, MASS.

New York Office:
40 EXCHANGE PLACE

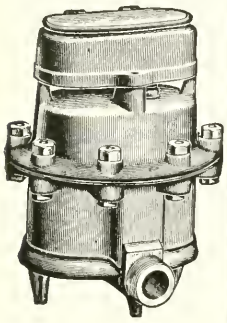
European Office:
52 RUE DE CONGRES, BRUSSELS

PHOTOGRAPHING & RETOUCHING - MACHINERY &c.

Half Tones
WOODBURY-CARLTON CO
made at No. 4 Walnut St.

DESIGNS BIRDS EYE VIEWS ART PRINT

UNION WATER METER CO.,



BENJAMIN F. OTIS, Pres. and Manager.
EDW. P. KING, Treas. and Supt.

Water Meters.

WORCESTER, MASS.

WORCESTER MACHINE SCREW CO.,

STANDARD SCREW CO. SUCCESSORS.

MANUFACTURERS OF

SET, CAP AND MACHINE

SCREWS

IN IRON, STEEL AND BRASS.

STUDS FOR STEAM ENGINES, PUMPS, ETC.

WORCESTER, MASS.

HATCH & BARNES CO.,

MANUFACTURERS OF

Doors, Sash, Blinds

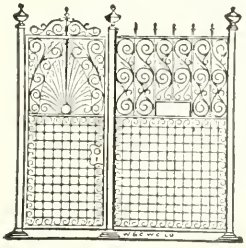
AND FINE BUILDERS' FINISH.

Practical Stair Builders. Newels, Balusters and Rails constantly on hand and made to order. Wood Turning a specialty.

Office, 196 Union Street, WORCESTER, MASS.

WRIGHT WIRE CO.

WIRE AND WIRE CLOTH



WIRE GUARD WORK.

Elevator Cabs and Enclosures

Coal Screens and Riddles.

POULTRY NETTING.

WORCESTER, MASS. PALMER, MASS

Duncan & Goodell Co.,

WHOLESALERS AND RETAILERS IN

Hardware and Cutlery.

We have the finest line of Table and Pocket Cutlery, also highest grade of Scissors, including all kinds from Finest Manicure Scissors to Tailors' Shears, to be seen in Worcester.

We make a specialty of Builders' Hardware and Supplies, and carry in stock a large line of best quality door and window trimmings.

404 Main Street, Cor. Pearl.

The most favorable place for the location of a Manufacturing Business.

Worcester

Massachusetts

Water Rate To Manufacturers Ten Cents per 1000 Gallons.

Central Location.

Unrivalled Railroad Facilities.

High-Grade Mechanics.

Unfailing Supply of Help.

Superior Schools the Attraction for Labor.

For further information address

Secretary,
Board of Trade.

WORCESTER BUSINESS DIRECTORY.

MANUFACTURERS AND DEALERS.

AGRICULTURAL IMPLEMENTS.

Worcester Kemp Manure Spreader, Buckeye Mower, Bullard Hay Tedder, Worcester Rake. RICHARDSON MANUFACTURING CO., 84 Prescott St., Worcester.

ARCHITECTS.

George H. Clemence, Architect, Walker Building, Room 205, 405 Main Street, Worcester, Mass.

Stephen C. Earle, Architect, Room 45, Burnside Building, 339 Main Street, Worcester, Mass.

Fuller & Delano Company, Architects, 452 Main St. Worcester, Mass. Ward P. Delano, Robt. L. Fuller

Clellan Waldo Fisher, Architect. Office, 718 State Mutual Building, Worcester.

Frost, Briggs & Chamberlain, Architects, Offices 518 Main Street, Knowles Building, Worcester, Mass.

ASH SIFTERS.

"Hustler" Ash Sifter. HILL DRYER CO., 340-350 Park Avenue, Worcester, Mass.

BALL BEARINGS.

Worcester Pressed Steel Co., North Ave.; take Barber's Crossing Car. Automobile and Bicycle Parts. Metal Stampings.

BANKS.

People's Savings Bank, 452 Main Street. See Advt.

Worcester County Institution for Savings, 13 Foster St. See Advt.

Worcester Five Cents Savings Bank, 314 Main St. See Advt.

Worcester Mechanics Savings Bank, 311 Main St. See Advt.

Worcester National Bank, 9 Foster Street, See Advt.

Worcester Trust Co., 448 Main Street. See Advt.

BELTING.

Oak tanned leather belting always in stock. GRATON & KNIGHT MFG. CO., Bloomingdale Road. See Advt.

Pure Oak Bark Tanned Leather Belting. Special Waterproof Belting, "B. & F." Belting, Dynamo Belts and other specials. Mill Supplies. J. F. & W. H. WARREN CO., 44 Vine Street, Worcester, Mass.

BLACKSMITHS.

Common Sense Shoeing Forge. JOHN J. GRADY, 162 Mechanic Street. Tel. 1028-6.

BOLTS AND NUTS.

Bolts, cold punched nuts and washers, die making and metal punching. THOMAS SMITH CO., Frank W. Foye, 14 Cypress Street.

BOOK BINDERY.

Book Binders and Paper Rulers. J. S. WESBY & SONS, 387 Main Street and 50 Foster Street.

BUILDERS' FINISH.

Doors, sash, blinds, and fine builders' finish. HATCH & BARNES CO., 196 Union Street. See Advt.

BUILDERS' SUPPLIES.

Builders' Supplies. SMITH, GREEN CO., 32 Bloomingdale Road. See Advt.

BUSINESS COLLEGES.

Bookkeepers, stenographers and typewriters. BECKER'S BUSINESS COLLEGE, 492 Main St. See Advt.

Business Men when in need of carefully trained Bookkeepers and Stenographers apply to C. B. POST, WORCESTER BUSINESS INSTITUTE, 476 Main Street.

CALENDARS.

Advertising Calendars, Blotters, Circulars, Booklets, Mailing Cards, Etc. PROGRESS PUB. CO., 377 Main St.

CHAINS.

Jack Chains, Ladder Chains, all kinds of Metal. HALE BROTHERS COMPANY, 42 Lagrange Street.

CLOTHES DRYERS.

For Lawn, Balcony or Roof. HILL DRYER CO., 340 to 350 Park Avenue, Worcester, Mass.

CONTRACTORS AND BUILDERS.

Builders of public, commercial and manufacturing buildings and private residences. J. W. BISHOP CO., Worcester, Boston, Providence, New York.

E. J. Cross, General Contractor. Estimates furnished on any class of buildings. Office, 82 Foster Street, Worcester.

Public and mercantile buildings a specialty. THE NORCROSS BROS. CO. See Advt.

DECORATORS AND PAINTERS.

Artistic frescoing and decorating of churches, halls and residences, sign and house painting. SANDGREN & EHNBORG, 274 Main Street. Tel. 983-4.

ELECTRICAL ENGINEERS AND CONTRACTORS.

Electrical Contractors and Dealers in Supplies. We install Dynamos and Motors, Telephones, Lighting, Etc. PAGE ELECTRIC CO., 24 Pearl Street.

Electrical Supplies, construction Automatic Telephone Systems. PLUMMER, HAM & RICHARDSON, 619 Main Street.

ELECTRIC LIGHT AND POWER.

Electric Light and Power supplied by WORCESTER ELECTRIC LIGHT COMPANY, 66 Faraday Street, Worcester, Mass.

ELEVATORS.

Hydraulic plunger elevators. PLUNGER ELEVATOR CO., Barber's. See Advt.

EMERY WHEELS.

Grinding Wheels, grinding machinery and India oil stones. NORTON EMERY WHEEL CO. See Advt.

ENGRAVING.

Half-Tone Work done artistically. WOODBURY-CARLTON CO., 4 Walnut Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

ENGINE LATHES.

Drilling Machines and engine lathes. PRENTICE BROTHERS, Cambridge Street. See Advt.

ENGINEERS.

Mill Buildings, Steel, Concrete Construction; Power Installations, THOMPSON & GALLAGHER, 339 Main St.

ENVELOPE MANUFACTURERS.

Envelopes and Envelope Specialties. LOGAN, SWIFT & BRIGHAM DIVISION. See Adv.

FIREARMS.

Guns and pistols of all kinds. HARRINGTON & RICHARDSON ARMS CO., Park Avenue. See Advt.

FOUNDRIES.

Light and heavy Iron Castings. JACKSON STREET FOUNDRY, J. A. Colvin, Prop , 52 Jackson Street.

GAS ENGINES.

Greendale Gas Engine Co., manufacturers of Gas and Gasoline Engines. S. F. BURLINGAME, Manager. Shop 'Phone 1063-2.

HARDWARE.

Wholesale and retail dealers in hardware and cutlery. DUNCAN & GOODELL CO., 404 Main Street. See Advt.

HEATING CONTRACTORS.

Ideal Boilers, steam and water. THE SINCLAIR CO., 28 Pearl Street. See Advt.

Acetylene Lighting—Plants installed. THE SINCLAIR CO., 28 Pearl Street. See Advt.

HOTEL.

Bay State House, European plan. C. W. RIPLEY, proprietor. See Advt.

IRON AND STEEL.

Supplies for blacksmiths, carriage-makers. GEO. F. BLAKE, JR., & CO. Office and storehouse Mechanic and Foster Streets. Tel. 2508-2509.

IRON FOUNDERS.

High Grade Machinery Castings. STANDARD FOUNDRY CO., Tainter Street. See Advt.

INSURANCE.

General insurance agency. CHARLES E. GRANT, Rooms 711 and 712 State Mutual Building.

Life Policies. STATE MUTUAL LIFE ASSURANCE CO. See Advt.

LEATHER AND CANVAS GOODS.

Suit Cases and Bags, Toilet Cases, Music Goods, Etc. WARREN LEATHER GOODS CO., 80 Austin Street.

LEATHER BELTING.

Hudson's extra oak-tanned Leather Belting always in stock. HUDSON BELTING CO., Eaton Place. See Advt.

LOOMS AND REPAIRS.

Looms and Repairs CROMPTON & KNOWLES LOOM WORKS. See Advt.

LUMBER.

W. H. Sawyer Lumber Co. Hard Pine Timber a specialty. All kinds Finish constantly in kiln.

Stone & Foster Lumber Co., Central and Union Sts. General line of lumber, wholesale or retail.

MACHINE JOBBING.

Machine Jobbing, Special Machinery, Patents perfected. DAWSON MACHINE CO., 2 Sargent Street. See Advt.

MACHINE SCREWS.

Machine Screws in iron, steel and brass. WORCESTER MACHINE SCREW CO., Beacon Street. See Advt.

MACHINISTS' TOOLS.

Planers a specialty, Machine Tools, Lathes and Drills. J. S. WHEELER & CO., 23 Hermon Street.

Lathes, Punches and Shears. W. C. YOUNG, 17 Hermon Street.

METAL SPECIALTIES.

Stove Trimmings, steampipe collars and ferrules. MATTHEWS MFG. CO., 104 Gold Street. See Advt.

MILL SUPPLIES.

Crawford & Co., 665 Main Street. Everything in Mill Supplies, Wool Stock, Cotton and Cotton Waste.

OVERALLS.

Overalls, Shirts, Frocks, Etc. A. G. HILDRETH, 25 Hermon Street, Worcester, Mass.

PAINTS AND OILS.

Painters' Supplies and Lubricating Oils. F. M. HEATH & CO., 40 Southbridge St., opp. Post Office.

PATENT CURTAIN RODS.

Adjustable Curtain Rods and Sockets. FOWLER & CO., 65 Beacon Street, Worcester, Mass.

PRINTING.

Good Printing quickly executed. F. S. BLANCHARD & CO., 6 Walnut Street. See Advt.

Printing and Engraving, HURLEY'S PRINTERY, 38 and 44 Front Street.

Posters, Show Cards, Theatrical and Commercial Printing. C. R. STOBBS, 16 Mechanic Street.

Commercial Printing and Blank-book Work. O. B. WOOD, 50 Foster Street. See Advt.

RAILROADS.

Boston & Albany division of N. Y. C. & H. R. R. R. See Advt.

RAZORS.

Manufacturers of all styles, including Safety Razors. J. R. TORREY RAZOR CO., Chandler Street.

REEDS.

Organ Reeds and Reed Boards. HAMMOND REED CO., Worcester, Mass. See Advt.

RAZOR STROPS.

Manufacturers of all styles of Strops, also Stropping Machine. J. R. TORREY & CO., Chandler Street.

ROLLING MILLS.

Continuous Rolling Mills, Gas Producers and Wire Mill Machinery. MORGAN CONSTRUCTION CO. See Adv.

SHOE MANUFACTURERS.

Heywood, the Worcester made Shoe. HEYWOOD BOOT & SHOE CO., Retail Store 415 Main Street. See Advt.

SLIPPERS.

Shoes and Slippers, Barefoot Sandals. Felt footwear a specialty. WORCESTER SLIPPER CO., J. P. Grosvenor, Prop., 370 Park Avenue.

STAMPINGS.

Worcester Pressed Steel Co., North Ave.; take Barbers' Crossing car. Light and heavy Stampings in all metals.

STEAM AND GAS FITTERS.

Braman, Dow & Co., Contractors for Heating Apparatus, Steam, Water or Vapor. Mill Piping a specialty. 7 Washington Square.

STEAM AND GAS SUPPLIES.

Leading Makes of steam and hot water heaters. CENTRAL SUPPLY CO., 35 Waldo Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

SUIT CASES AND BAGS.

Largest and best variety, up-to-date in every respect. WARREN LEATHER GOODS CO.

TACKS AND NAILS.

Shoe Tacks, Hungarian Nails, Hob Nails. P. E. SOMERS, 17 Hermon Street, Worcester, Mass.

TAXIDERMIST.

Chas K. Reed, Naturalists' Supplies. 75 Thomas Street, corner Union, Worcester Mass.

VALENTINES.

Valentines, Holiday Goods, Easter Novelties. THE GEO. C. WHITNEY CO., 67 Union Street, Worcester.

WATER METERS.

The Best Known Meter. UNION WATER METER CO., Hermon Street. See Advt.

WIRE FLY KILLER.

Bigelow Wire Fly Killer. It kills but does not crush the fly. J. F. BIGELOW, 11 Foster Street.

WIRE GOODS.

Wire of all Kinds. SPENCER WIRE CO., Worcester and Spencer. See Advt.

Wire Goods and Wire Novelties. WORCESTER WIRE GOODS CO. See Advt.

Wire, wire cloth and poultry netting. WRIGHT WIRE CO., Worcester and Palmer. See Advt.

WOOL-SPINNING MACHINERY.

Johnson & Bassett, Wool-Spinning Machinery. 114 Foster Street, Worcester, Mass.

BANKS.

WORCESTER NATIONAL BANK, 9 Foster Street. Incorporated as a State Bank in 1804; as a National Bank in 1864. Capital $250,000; surplus and undivided profits $321,508.72. Dividends April and October; rate past year, 8 per cent. President, James P. Hamilton; Cashier, Samuel D. Spurr; Assistant Cashier, F. M. Hedden; Directors, A. George Bullock, Charles A. Chase, James P. Hamilton, Lincoln N. Kinnicutt, Edward L. Davis, George F. Brooks, Paul B. Morgan, Reginald Washburn, Matthew J. Whittall.

WORCESTER TRUST COMPANY, 344 Main Street. Incorporated in 1868. Capital $500,000; surplus $500,000. Dividends January, April, July, and October; rate past year, 6 per cent. William D. Luey, President; Henry A. Marsh, Nathaniel Paine, Henry P. Murray, Vice Presidents; Samuel H. Clary, Treasurer; Alvin J. Daniels, Secretary; Chairman of Board of Directors, Henry A. Marsh; Directors, Charles S. Barton, Geo. F. Blake, A. George Bullock, John H. Coes, Alexander DeWitt, Thomas B. Eaton, William Endicott, Jr., Henry F. Harris, Rockwood Hoar, C. Henry Hutchins, Lincoln N. Kinnicutt, Edwin T. Marble, J. Russel Marble, Neal Rantoul, Wm. H. Sawyer, Frank Bulkeley Smith, E. D. Thayer, Chas. M. Thayer, Robert M. Washburn, George W. Wells, M. J. Whittall, G. Marston Whitin, Charles A. Williams, Robert Winsor, A. W. Parmelee, A. O. Young.

PEOPLE'S SAVINGS BANK, 452 Main Street. Incorporated in 1864. Deposits February 1st, $11,450,000. Guaranty Fund $540,000. Number of depositors 24,234. Deposits put upon interest February, May, August and November 1st. Dividends payable February and August 2nd and added to the principal as of the 1st of those months if not withdrawn. President, Samuel R. Heywood; Treasurer, Charles M. Bent; Assistant Treasurer, Frederick W. White; Investment Committee, Samuel R. Heywood, Edwin T. Marble, Henry M. Harris, Charles M. Thayer, Alexander DeWitt.

THE WORCESTER MECHANICS SAVINGS BANK, Worcester, Mass. Organized, 1851. Officers: President, A. B. R. Sprague; Vice Presidents, John H. Coes, Thomas B. Eaton, Eli J. Whittemore; Treasurer, Frank W. Cutting; Trustees, A. B. R. Sprague, Thomas B. Eaton, Thomas G. Kent, Eli J. Whittemore, John H. Coes, Francis H. Dewey, Chas. A. Hill, Chas. F. Hanson, Geo. E. Merrill, Levis G. White, Francis W. Blacker, Henry S. Pratt, Arthur P. Rugg, Chas. D. Lamson.

WORCESTER FIVE CENTS SAVINGS BANK, 314 Main Street. Incorporated, April 1, 1854. Assets, $10,473,732.59; number of depositors, 34,421. Deposits received from five cents to $1000 and placed on interest January, April, July and October. Dividends payable on and after January 15 and July 15. President, Henry M. Witter; Vice Presidents, Simeon N. Story, Gilbert J. Rugg, Edwin Brown, Roger F. Upham, Otis E. Putnam, James Draper; Treasurer, J. Stewart Brown.

WORCESTER COUNTY INSTITUTION FOR SAVINGS, 13 Foster Street. Incorporated, February 5, 1828. Deposits, $19,014,022; assets, $20,414,156; number depositors, 39,955. Deposits put on interest January, April, July and October. Dividends payable January 15 and July 15. President, Chas. A. Chase; Vice Presidents, Edward L. Davis, Geo. E. Francis, Thos. H. Gage; Treasurer, Alfred L. Aiken; Board of Investment, Chas. A. Chase, Sam'l B. Woodward, Geo. E. Francis, Lyman A. Ely, A. George Bullock; Clerk of Corporation, Chas. F. Aldrich.

The Old Family Wine Store

SOLE MANUFACTURERS OF

G. F. H. PRIVATE STOCK WHISKEY

and

Cold Blast Ginger Ale

Write for Price List

GEO. F. HEWETT CO.

Established 1860
Telephone 2455

41, 43, 45 Waldo St., Worcester, Mass.

Boston & Albany RAILROAD
N. Y. C. & H. R. R. R., LESSEE.

NEW YORK CENTRAL LINES

PULLMAN SLEEPING CAR SERVICE TO THE ADIRONDACK MOUNTAINS

Buffet Sleeper leaves Boston 3.32 p.m.; Worcester 4.42; Springfield 6.24, daily except Sundays, via Boston & Albany and New York Central, for Lake Placid and Intermediate Points; due Childwold, 5.55 a.m.; Tupper Lake, 6.10; Saranac Inn, 6.48; Saranac Lake, 7.35; and Lake Placid, 8.10 a.m. Early morning breakfast from buffet. Close connection for the Northern Adirondacks.

Returning, Sleeper leaves Lake Placid 8.05 p.m. daily, except Saturday; due Boston 10.30 next morning. Dining Car Springfield to Boston.

Through Similar Service to the Thousand Islands

Beginning June 22, Pullman Sleeping Car line will be operated between Boston and Clayton, leaving Boston, Fridays only, 6.02 p.m.; Worcester, 7.10; Springfield, 8.33; due Clayton, 7.15 next morning. Dining Car, Boston to Springfield.

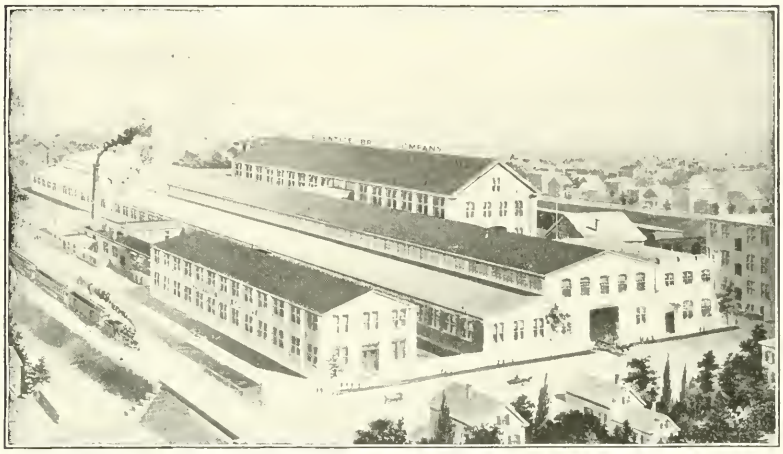
Returning, leaves Clayton, Sundays only, 9 p.m.; due Boston, 10.30 next morning. Dining Car, Springfield to Boston.

For additional train service, or illustrated literature descriptive of Thousand Islands resorts, call on or address A. J. CARROLL, Pass. Agt., 404 Main St., Springfield; J. E. SWEENEY, 385 Main St., Worcester; R. M. HARRIS, 366 Washington St., Boston.

A. S. HANSON, Gen. Pass. Agt., Boston.

PRENTICE BROS. COMPANY,

WORCESTER, MASS.



BUILDERS OF

DRILLING MACHINES AND ENGINE LATHES.

COATES CLIPPERS

Coates Hair Clippers and flexible transmission.

COATES CLIPPER MFG. CO., WORCESTER, MASS.

MATTHEWS MANUFACTURING COMPANY,

MANUFACTURERS OF

STOVE TRIMMINGS,
BALL BEARINGS,

Steam-Pipe Collars,
Ferrules and
Sheet Metal Specialties.

104 Gold Street, Worcester, Mass.
A. T. MATTHEWS, Treasurer.

Commonwealth Press

An establishment fitted for

High Grade Printing

at a minimum cost

Once a customer, always one

O. B. WOOD, Proprietor
50 FOSTER ST., WORCESTER

Bay State House.

American and .. European Plan

C. W. RIPLEY, Proprietor .·. WORCESTER, MASS.

WORCESTER

The Mecca of Manufacturers

Largest Manufacturing City in the United States not on a waterway—over 1000 Industrial Plants, employing 26,000 mechanics.

Has more than 3,000,000 people within a radius of 50 miles.

Has four great connecting Railroad Systems with superior shipping facilities.

Has 172 Passenger Trains a day.

Has 293 miles Street Railway Tracks, over which 30,000-000 passengers ride annually.

Has $52,000,000 deposits in Savings Banks, credited to 112,000 depositors.

Has Park System covering more than 1200 acres.

Has most beautiful Water Park in the country.

Has 210 miles of Streets, 176 miles of Sewers and 193 miles of Water Mains.

Has 95 Public Schools and institutions of higher education.

Has 25 Libraries with over 500,000 volumes.

The Largest Loom Works, Valentine, Emery Wheel, Envelope, Corset, Brussels Carpet, Paper-box Machinery, Skate, Wire-working, Card Clothing and Spring Plants in the World.

For further information regarding Worcester, write to

Secretary Worcester Board of Trade

WORCESTER, MASSACHUSETTS

HAMMOND REED COMPANY

MANUFACTURERS OF

Organ Reeds, Reed Boards and other Organ Supplies

Telegraph and Cable Address, "Reeds," Worcester, Mass., U. S. A. **WORCESTER, MASS.**

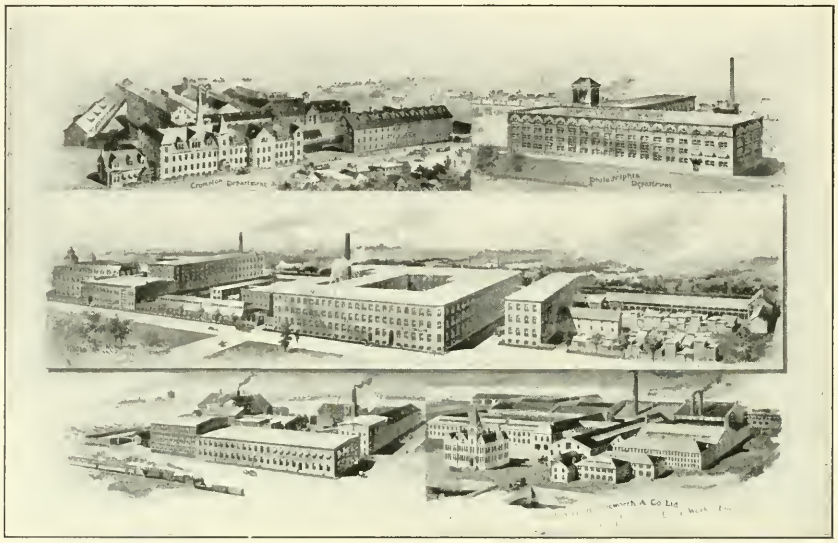
ST. JOHN'S CHURCH, NORTHAMPTON, MASS.
The Norcross Brothers Co., Builders, Worcester, Mass.

Printing

as printing ought
to be

The Blanchard Press
Six Walnut Street, Worcester, Mass.

LOOMS and REPAIRS



CROMPTON & KNOWLES LOOM WORKS

Worcester Providence Philadelphia

For Statistics of Worcester and List of Things Made

Write to the SECRETARY BOARD OF TRADE

The Worcester Magazine

Vol. IX. CONTENTS FOR OCTOBER, 1906. No. 10

Frontispiece. Judge Arthur Prentice Rugg, Massachusetts Supreme Court.

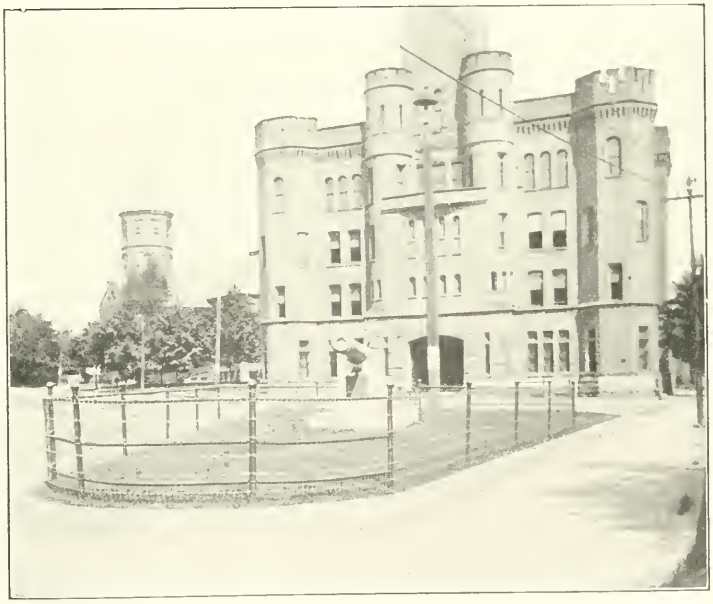
Magazine and Municipal Comment.

Had Active and Honorable Experience, - - - - - - - 201
Fortune in Farming, - - - 202
Trade Schools a Necessity, - - 202
The Citizen and the Fire Department, 203
Better Men are Needed, - - 203
Take Time and get the Best, - 204
Worcester's Tribute to the "Talking Toy," - - - - - - - 204
Are We an Hysterical Nation? - 205
A Chapter in Banking, - - - 205
Put to Common Sense Test, - - 206
Chicago Wrests Fair Name from Boston, - - - - - - - 206

Judge Arthur Prentice Rugg, - 207
The Citizen and the Fire Department, 209
What a Chamber of Commerce can do, 215
Board of Trade Notes, - - - 219

Published monthly by the Worcester Board of Trade, 11 Foster Street, Worcester, Mass. Committee on Publication, Rufus B. Fowler, G. Stanley Hall, Irving E. Comins, Milton P. Higgins, George W. Mackintire. Terms $1.00 a year; single copies, 10 cents. For sale by newsdealers. Entered at the Post Office, Worcester, Mass., as second-class matter, May 10, 1901.

ORNAMENTAL and SPECIAL FENCING
WIRE and WROUGHT IRON

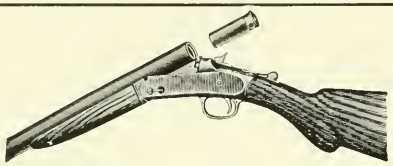


No. 6 Anchor Fence at Santiago Monument, Worcester Armory.
FLOWER BED GUARD, TREE GUARDS, TRELLIS.
N. E. ANCHOR FENCE CO., Dept. of Spencer Wire Co.,
91 Webster St., Worcester, Mass. Tel. 2665.

In writing to advertisers, please mention the Worcester Magazine.

That Office Help Is a source of continual anxiety to the business man unless he has the best. Poor help costs more than good help does. **Becker's Business College** has turned out the best class of help employed in Worcester. When in need of such help send to Becker's—the school giving the strongest business training in New England.

Telephone 378-3 **E. C. A. BECKER, Prop.**



Established 1871. Incorporated 1888.

HARRINGTON & RICHARDSON ARMS CO.,

MANUFACTURERS OF

FIREARMS.

Descriptive Catalogue on request. **Worcester, Mass., U. S. A.**

Logan, Swift & Brigham

ENVELOPE CO. DIVISION

Worcester, Massachusetts

MANUFACTURERS OF STANDARD

... Envelopes ...

The Outlook Envelope

Insures economy and absolute accuracy in the addressing of all your mail matter.

The Improved Columbian Clasp Envelope

The best and most satisfactory Merchandise Envelope made.

Specialists in STEEL DIE STAMPING

for Commercial Work. Samples and Prices of our Standard Goods furnished by your Stationer or Printer.

PETER WOOD, Pres. and Treas.

THE PETER WOOD DYEING COMPANY

Bleachers and Dyers of

COTTON, YARNS and WARPS, THREADS, TAPES, BRAIDS, ETC.

Dyers of Alizarine and Indigo Colors

Works on Holmes Street WORCESTER, MASS.

MADE IN WORCESTER === WELL MADE!

A shoe for everybody.
A shoe that fits the foot.
Meets the demand for comfort and style.
The cushion cannot bunch hard—is porous and prevents perspiration.
The shoe is waterproof and dry.
The
WORTH CUSHION SOLE SHOE
is the scientific foot-fitting shoe of the day.

THE CUMMINGS CO., Inc.,
Manufacturers,
60 King Street, Worcester, Mass.

For Sale by
DADMUN & HEYWOOD,
520 Main Street, Knowles Building.

"Everything in Wire"

We manufacture from steel and brass wire a salable line of Hardware and Kitchen Goods Specialties, Belt Hooks; Universal, Jack and Plumbers' Chains; Coat and Hat Hooks; Garment Hangers; Blind Fixtures; Kitchen Wire Goods; Wire Nails, Tacks and Staples. Our line on sale at all Hardware and Department Stores. Special Goods made to order from wire.

The Wire Goods Company
WORCESTER, MASSACHUSETTS

NORTON GRINDING WHEELS

IN ALL SIZES AND DEGREES OF HARDNESS

Made of
Alundum
the Latest
and Best
Abrasive

Exceptionally
desirable
for ALL
kinds of
Grinding

NORTON COMPANY,
WORCESTER, MASS.

Plunger Elevator Co.,

Safe, Long-Lived, Economical, High-Speed Passenger Elevators a Specialty. . . . . .

Hydraulic Plunger

ELEVATORS.

OFFICE AND FACTORY.

BARBER'S, WORCESTER, MASS

The Smith, Green Company

R. C. CLEVELAND, President and Treasurer

Office, Yards and Warehouses: 32 Bloomingdale Road, Worcester, Mass.

Wholesale and Retail Builders' Supplies

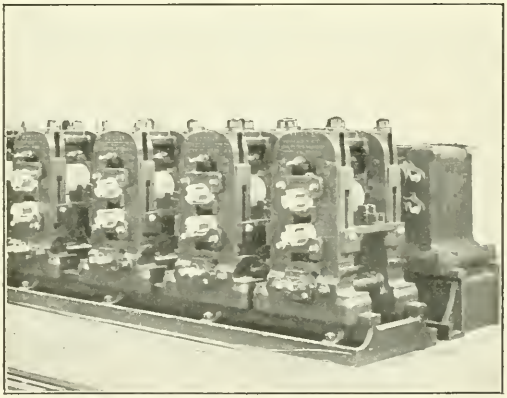
PROPRIETORS OF

Elastic Pulp Plaster Manufacturing Company

Manufacturers of

ELASTIC PULP PLASTER

The only perfect Wall Plaster in the world



MORGAN CONTINUOUS ROLL TRAIN.

Continuous Rolling Mills

Continuous Heating Furnaces

Continuous Gas Producers

Wire Mill Machinery

MORGAN CONSTRUCTION COMPANY

WORCESTER, MASS.

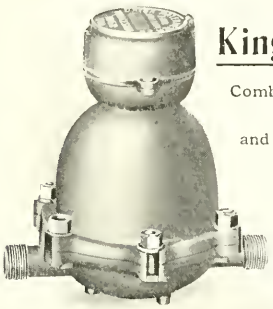
New York Office:
40 EXCHANGE PLACE

European Office:
52 RUE DE CONCRES, BRUSSELS

PHOTOGRAPHING & RETOUCHING · MACHINERY etc

Half Tones
WOODBURY-CARLTON CO
made at No. 4 Walnut St.

DESIGNS BIRDS EYE VIEWS ART PRINTS

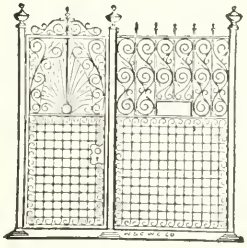


THE
King Disc Meter
Combining
Best Material
and Workmanship.
Contractors, Patronize
Home Industry.
UNION
WATER METER
COMPANY,
Worcester, Mass.

WORCESTER
MACHINE
SCREW CO.,
STANDARD SCREW CO. SUCCESSORS.
MANUFACTURERS OF
SET, CAP AND MACHINE
SCREWS
IN IRON, STEEL AND BRASS.
STUDS FOR STEAM ENGINES, PUMPS, ETC.
WORCESTER, MASS.

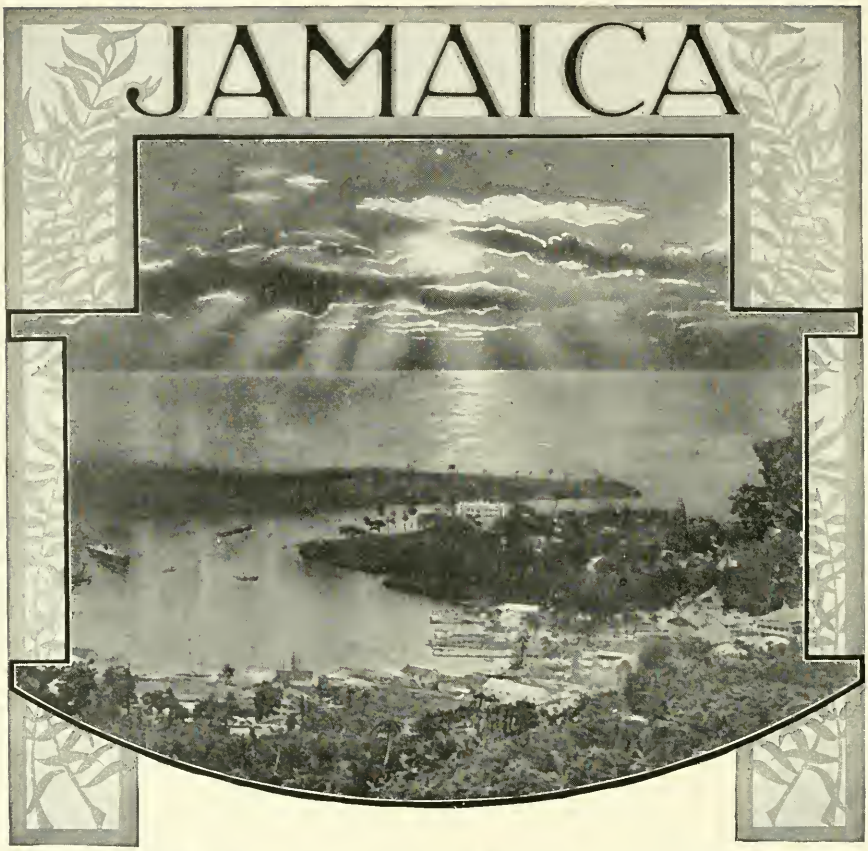
HATCH & BARNES CO.,
MANUFACTURERS OF
Doors, Sash, Blinds
AND FINE BUILDERS' FINISH.
Practical Stair Builders. Newels, Balusters and Rails constantly on hand and made to order. Wood Turning a specialty.
Office, 196 Union Street, WORCESTER, MASS.

WRIGHT WIRE CO.
WIRE AND WIRE CLOTH



WIRE GUARD WORK.
Elevator Cabs and Enclosures
Coal Screens and Riddles.
POULTRY NETTING.
WORCESTER, MASS. PALMER, MASS.

Duncan & Goodell Co.,
WHOLESALERS AND RETAILERS IN
Hardware and Cutlery.
We have the finest line of Table and Pocket Cutlery, also highest grade of Scissors, including all kinds from Finest Manicure Scissors to Tailors' Shears, to be seen in Worcester.
We make a specialty of Builders' Hardware and Supplies, and carry in stock a large line of best quality door and window trimmings.
404 Main Street, Cor. Pearl.



JAMAICA WHERE SUMMER IS 12 MONTHS LONG

Nowhere can winter be spent so delightfully

THE UNITED FRUIT COMPANY'S
Steel Twin-Screw U. S. Mail Steamships

Sailings Weekly from Boston, Philadelphia and Baltimore

Round Trip Fare, $75 including meals and berth in stateroom Single Fare, $40

Write for Jamaica Literature describing and illustrating the Island and tours of interest. Address General Passenger Agent

UNITED FRUIT COMPANY

Long Wharf, Boston.

UNITED FRUIT COMPANY

Or call on either of the following Worcester Agents:

J. F. HEALY, 396 Main St. O. F. RAWSON, 391 Main St.
S. S. VAN ETTEN, 385 Main Street.

WORCESTER BUSINESS DIRECTORY.

MANUFACTURERS AND DEALERS.

AGRICULTURAL IMPLEMENTS.

Worcester Kemp Manure Spreader, Buckeye Mower, Bullard Hay Tedder, Worcester Rake. RICHARDSON MANUFACTURING CO., 84 Prescott St., Worcester.

ARCHITECTS.

George H. Clemence, Architect, Walker Building, Room 205, 405 Main Street, Worcester, Mass.

Stephen C. Earle, Architect, Room 45, Burnside Building, 339 Main Street, Worcester, Mass.

Fuller & Delano Company, Architects, 452 Main St. Worcester, Mass. Ward P. Delano, Robt. L. Fuller

Clellan Waldo Fisher, Architect. Office, 718 State Mutual Building, Worcester.

Frost, Briggs & Chamberlain, Architects, Offices 518 Main Street, Knowles Building, Worcester, Mass.

ASH SIFTERS.

"Hustler" Ash Sifter. HILL DRYER CO., 340-350 Park Avenue, Worcester, Mass.

BALL BEARINGS.

Worcester Pressed Steel Co., North Ave.; take Barber's Crossing Car. Automobile and Bicycle Parts. Metal Stampings.

BANKS.

People's Savings Bank, 452 Main Street. See Advt.

Worcester County Institution for Savings, 13 Foster St. See Advt.

Worcester Five Cents Savings Bank, 314 Main St. See Advt.

Worcester Mechanics Savings Bank, 311 Main St. See Advt.

Worcester National Bank, 9 Foster Street. See Advt.

Worcester Trust Co., 448 Main Street. See Advt.

BELTING.

Oak tanned leather belting always in stock. GRATON & KNIGHT MFG. CO., Bloomingdale Road. See Advt.

Pure Oak Bark Tanned Leather Belting. Special Waterproof Belting, "B. & F." Belting, Dynamo Belts and other specials. Mill Supplies. J. F. & W. H. WARREN CO., 44 Vine Street, Worcester, Mass.

BLACKSMITHS.

Common Sense Shoeing Forge. JOHN J. GRADY, 162 Mechanic Street. Tel. 1028-6.

BOLTS AND NUTS.

Bolts, cold punched nuts and washers, die making and metal punching. THOMAS SMITH CO., Frank W. Foye, 14 Cypress Street.

BOOK BINDERY.

Book Binders and Paper Rulers. J. S. WESBY & SONS, 387 Main Street and 50 Foster Street.

BUILDERS' FINISH.

Doors, sash, blinds, and fine builders' finish. HATCH & BARNES CO., 196 Union Street. See Advt.

BUILDERS' SUPPLIES.

Builders' Supplies. SMITH, GREEN CO., 32 Bloomingdale Road. See Advt.

BUSINESS COLLEGES.

Bookkeepers, stenographers and typewriters. BECKER'S BUSINESS COLLEGE, 492 Main St. See Advt.

Business Men when in need of carefully trained Bookkeepers and Stenographers apply to C. B. POST, WORCESTER BUSINESS INSTITUTE, 476 Main Street.

CALENDARS.

Advertising Calendars, Blotters, Circulars, Booklets, Mailing Cards, Etc. PROGRESS PUB. CO., 377 Main St.

CHAINS.

Jack Chains, Ladder Chains, all kinds of Metal. HALE BROTHERS COMPANY, 42 Lagrange Street.

CLOTHES DRYERS.

For Lawn, Balcony or Roof. HILL DRYER CO., 340 to 350 Park Avenue, Worcester, Mass.

CONTRACTORS AND BUILDERS.

Builders of public, commercial and manufacturing buildings and private residences. J. W. BISHOP CO., Worcester, Boston, Providence, New York.

E. J. Cross, General Contractor. Estimates furnished on any class of buildings. Office, 82 Foster Street, Worcester.

Public and mercantile buildings a specialty. THE NORCROSS BROS. CO. See Advt.

DECORATORS AND PAINTERS.

Artistic frescoing and decorating of churches, halls and residences, sign and house painting. SANDGREN & EHNBORG, 274 Main Street. Tel. 983-4.

ELECTRICAL ENGINEERS AND CONTRACTORS.

Electrical Contractors and Dealers in Supplies. We install Dynamos and Motors, Telephones, Lighting, Etc. PAGE ELECTRIC CO., 24 Pearl Street.

Electrical Supplies, construction Automatic Telephone Systems. PLUMMER, HAM & RICHARDSON, 619 Main Street.

ELECTRIC LIGHT AND POWER.

Electric Light and Power supplied by WORCESTER ELECTRIC LIGHT COMPANY, 66 Faraday Street, Worcester, Mass.

ELEVATORS.

Hydraulic plunger elevators. PLUNGER ELEVATOR CO., Barber's. See Advt.

EMERY WHEELS.

Grinding Wheels, grinding machinery and India oil stones. NORTON EMERY WHEEL CO. See Advt.

ENGRAVING.

Half-Tone Work done artistically. WOODBURY-CARLTON CO., 4 Walnut Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

ENGINE LATHES.

Drilling Machines and engine lathes. PRENTICE BROTHERS, Cambridge Street. See Advt.

ENGINEERS.

Mill Buildings, Steel, Concrete Construction; Power Installations, THOMPSON & GALLAGHER, 339 Main St.

ENVELOPE MANUFACTURERS.

Envelopes and Envelope Specialties. LOGAN, SWIFT & BRIGHAM DIVISION. See Adv.

FIREARMS.

Guns and pistols of all kinds. HARRINGTON & RICHARDSON ARMS CO., Park Avenue. See Advt.

FOUNDRIES.

Light and heavy Iron Castings. JACKSON STREET FOUNDRY, J. A. Colvin, Prop., 52 Jackson Street.

GAS ENGINES.

Greendale Gas Engine Co., manufacturers of Gas and Gasoline Engines. S. F. BURLINGAME, Manager. Shop 'Phone 1063-2.

HARDWARE.

Wholesale and retail dealers in hardware and cutlery. DUNCAN & GOODELL CO., 404 Main Street. See Advt.

HEATING CONTRACTORS.

Ideal Boilers, steam and water. THE SINCLAIR CO., 28 Pearl Street. See Advt.

Acetylene Lighting—Plants installed. THE SINCLAIR CO., 28 Pearl Street. See Advt.

HOTEL.

Bay State House, European plan. C. W. RIPLEY, proprietor. See Advt.

IRON AND STEEL.

Supplies for blacksmiths, carriage-makers. GEO. F. BLAKE, JR., & CO. Office and storehouse Mechanic and Foster Streets. Tel. 2508-2509.

IRON FOUNDERS.

High Grade Machinery Castings. STANDARD FOUNDRY CO., Tainter Street. See Advt.

INSURANCE.

General insurance agency. CHARLES E. GRANT, Rooms 711 and 712 State Mutual Building.

Life Policies. STATE MUTUAL LIFE ASSURANCE CO. See Advt.

LEATHER AND CANVAS GOODS.

Suit Cases and Bags, Toilet Cases, Music Goods, Etc. WARREN LEATHER GOODS CO., 80 Austin Street.

LEATHER BELTING.

Hudson's extra oak-tanned Leather Belting always in stock. HUDSON BELTING CO., Eaton Place. See Advt.

LOOMS AND REPAIRS.

Looms and Repairs. CROMPTON & KNOWLES LOOM WORKS. See Advt.

LUMBER.

W. H. Sawyer Lumber Co. Hard Pine Timber a specialty. All kinds Finish constantly in kiln.

Stone & Foster Lumber Co., Central and Union Sts. General line of lumber, wholesale or retail.

MACHINE JOBBING.

Machine Jobbing, Special Machinery, Patents perfected. DAWSON MACHINE CO., 2 Sargent Street. See Advt.

MACHINE SCREWS.

Machine Screws in iron, steel and brass. WORCESTER MACHINE SCREW CO., Beacon Street. See Advt.

MACHINISTS' TOOLS.

Planers a specialty, Machine Tools, Lathes and Drills. J. S. WHEELER & CO., 23 Hermon Street.

Lathes, Punches and Shears. W. C. YOUNG, 17 Hermon Street.

METAL SPECIALTIES.

Stove Trimmings, steampipe collars and ferrules. MATTHEWS MFG. CO., 104 Gold Street. See Advt.

MILL SUPPLIES.

Crawford & Co., 665 Main Street. Everything in Mill Supplies, Wool Stock, Cotton and Cotton Waste.

OVERALLS.

Overalls, Shirts, Frocks, Etc. A. G. HILDRETH, 25 Hermon Street, Worcester, Mass.

PAINTS AND OILS.

Painters' Supplies and Lubricating Oils. F. M. HEATH & CO., 40 Southbridge St., opp. Post Office.

PATENT CURTAIN RODS.

Adjustable Curtain Rods and Sockets. FOWLER & CO., 65 Beacon Street, Worcester, Mass.

PRINTING.

Good Printing quickly executed. F. S. BLANCHARD & CO., 6 Walnut Street. See Advt.

Printing and Engraving, HURLEY'S PRINTERY, 38 and 44 Front Street.

Posters, Show Cards, Theatrical and Commercial Printing. C. R. STOBBS, 16 Mechanic Street.

Commercial Printing and Blank-book Work. O. B. WOOD, 50 Foster Street. See Advt.

RAILROADS.

Boston & Albany division of N. Y. C. & H. R. R. R. See Advt.

RAZORS.

Manufacturers of all styles, including Safety Razors. J. R. TORREY RAZOR CO., Chandler Street.

REEDS.

Organ Reeds and Reed Boards. HAMMOND REED CO., Worcester, Mass. See Advt.

RAZOR STROPS.

Manufacturers of all styles of Strops, also Stropping Machine. J. R. TORREY & CO., Chandler Street.

ROLLING MILLS.

Continuous Rolling Mills, Gas Producers and Wire Mill Machinery. MORGAN CONSTRUCTION CO. See Adv.

SHOE MANUFACTURERS.

Heywood, the Worcester made Shoe. HEYWOOD BOOT & SHOE CO., Retail Store 415 Main Street. See Advt.

SLIPPERS.

Shoes and Slippers, Barefoot Sandals. Felt footwear a specialty. WORCESTER SLIPPER CO., J. P. Grosvenor, Prop., 370 Park Avenue.

STAMPINGS.

Worcester Pressed Steel Co., North Ave.: take Barbers' Crossing car. Light and heavy Stampings in all metals.

STEAM AND GAS FITTERS.

Braman, Dow & Co., Contractors for Heating Apparatus, Steam, Water or Vapor. Mill Piping a specialty. 7 Washington Square.

STEAM AND GAS SUPPLIES.

Leading Makes of steam and hot water heaters. CENTRAL SUPPLY CO., 35 Waldo Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

SUIT CASES AND BAGS.

Largest and best variety, up-to-date in every respect. WARREN LEATHER GOODS CO.

TACKS AND NAILS.

Shoe Tacks, Hungarian Nails, Hob Nails. P. E. SOMERS, 17 Hermon Street, Worcester, Mass.

TAXIDERMIST.

Chas K. Reed, Naturalists' S pplies. 75 Thomas Street, corner Union, Worcester Mass.

VALENTINES.

Valentines, Holiday Goods, Easter Novelties. THE GEO. C. WHITNEY CO., 67 Union Street, Worcester.

WATER METERS.

The Best Known Meter. UNION WATER METER CO., Hermon Street. See Advt.

WIRE FLY KILLER.

Bigelow Wire Fly Killer. It kills but does not crush the fly. J. F. BIGELOW, 11 Foster Street.

WIRE GOODS.

Wire of all Kinds. SPENCER WIRE CO., Worcester and Spencer. See Advt.

Wire Goods and Wire Novelties. WORCESTER WIRE GOODS CO. See Advt.

Wire, wire cloth and poultry netting. WRIGHT WIRE CO., Worcester and Palmer. See Advt.

WOOL-SPINNING MACHINERY.

Johnson & Bassett, Wool-Spinning Machinery. 114 Foster Street, Worcester, Mass.

BANKS.

WORCESTER NATIONAL BANK, 9 Foster Street. Incorporated as a State Bank in 1804; as a National Bank in 1864. Capital $250,000; surplus and undivided profits $321,508.72. Dividends April and October; rate past year, 8 per cent. President, James P. Hamilton; Cashier, Samuel D. Spurr; Assistant Cashier, F. M. Hedden; Directors, A. George Bullock, Charles A. Chase, James P. Hamilton, Lincoln N. Kinnicutt, Edward L. Davis, George F. Brooks, Paul B. Morgan, Reginald Washburn, Matthew J. Whittall.

WORCESTER TRUST COMPANY, 344 Main Street. Incorporated in 1868. Capital $500,000; surplus $500,000. Dividends January, April, July, and October; rate past year, 6 per cent. William D. Luey, President; Henry A. Marsh, Nathaniel Paine, Henry P. Murray, Vice Presidents; Samuel H. Clary, Treasurer; Alvin J. Daniels, Secretary; Chairman of Board of Directors, Henry A. Marsh; Directors, Charles S. Barton, Geo. F. Blake, A. George Bullock, John H. Coes, Alexander DeWitt, Thomas B. Eaton, William Endicott, Jr., Henry F. Harris, Rockwood Hoar, C. Henry Hutchins, Lincoln N. Kinnicutt, Edwin T. Marble, J. Russel Marble, Neal Rantoul, Wm. H. Sawyer, Frank Bulkeley Smith, E. D. Thayer, Chas. M. Thayer, Robert M. Washburn, George W. Wells, M. J. Whittall, G. Marston Whitin, Charles A. Williams, Robert Winsor, A. W. Parmelee, A. O. Young.

PEOPLE'S SAVINGS BANK, 452 Main Street. Incorporated in 1864. Deposits February 1st, $11,450,000. Guaranty Fund $540,000. Number of depositors 24,234. Deposits put upon interest February, May, August and November 1st. Dividends payable February and August 2nd and added to the principal as of the 1st of those months if not withdrawn. President, Samuel R. Heywood; Treasurer, Charles M. Bent; Assistant Treasurer, Frederick W. White; Investment Committee, Samuel R. Heywood, Edwin T. Marble, Henry M. Harris, Charles M. Thayer, Alexander DeWitt.

THE WORCESTER MECHANICS SAVINGS BANK, Worcester, Mass. Organized, 1851. Officers: President, A. B. R. Sprague; Vice Presidents, John H. Coes, Thomas B. Eaton, Eli J. Whittemore; Treasurer, Frank W. Cutting; Trustees, A. B. R. Sprague, Thomas B. Eaton, Thomas G. Kent, Eli J. Whittemore, John H. Coes, Francis H. Dewey, Chas. A. Hill, Chas. F. Hanson, Geo. E. Merrill, Levis G. White, Francis W. Blacker, Henry S. Pratt, Arthur P. Rugg, Chas. D. Lamson.

WORCESTER FIVE CENTS SAVINGS BANK, 314 Main Street. Incorporated, April 1, 1854. Assets, $10,473,732.59; number of depositors, 34,421. Deposits received from five cents to $1000 and placed on interest January, April, July and October. Dividends payable on and after January 15 and July 15. President, Henry M. Witter; Vice Presidents, Simeon N. Story, Gilbert J. Rugg, Edwin Brown, Roger F. Upham, Otis E. Putnam, James Draper; Treasurer, J. Stewart Brown.

WORCESTER COUNTY INSTITUTION FOR SAVINGS, 13 Foster Street. Incorporated, February 5, 1828. Deposits, $19,014,022; assets, $20,414,156; number depositors, 39,955. Deposits put on interest January, April, July and October. Dividends payable January 15 and July 15. President, Chas. A. Chase; Vice Presidents, Edward L. Davis, Geo. E. Francis, Thos. H. Gage; Treasurer, Alfred L. Aiken; Board of Investment, Chas. A. Chase, Sam'l B. Woodward, Geo. E. Francis, Lyman A. Ely, A. George Bullock; Clerk of Corporation, Chas. F. Aldrich.

The Old Family Wine Store

SOLE MANUFACTURERS OF

G. F. H. PRIVATE STOCK WHISKEY

and

Cold Blast Ginger Ale

Write for Price List

GEO. F. HEWETT CO.

Established 1860
Telephone 2455

41, 43, 45 Waldo St., Worcester, Mass.

Boston & Albany RAILROAD
N. Y. C. & H. R. R. R., LESSEE.

NEW YORK CENTRAL LINES

$5.00 TOUR

HUDSON RIVER
NEW YORK CITY

Wednesday, October 10

Once every year the Boston & Albany R.R. operates a popular excursion to New York, **578 Miles by Rail and Steamer for $5,** covering a period of four to six days.

Tickets good on Express Trains during the day, except No. 15, passing through Worcester, Springfield and Pittsfield—the HEART OF THE BERKSHIRE HILLS.

Due Albany 2.35 or 3.50 p. m., for sight seeing, and stop over night if desired, or leave same evening via **People's Line Steamer.**

Illumination of State House at Albany has been arranged for those who stop over night. Leave 8.30 a. m., by the **Hudson River Day Line Steamer** for that enchanting sail down that historic and picturesque river. **A Night-and-a-Day in New York** for sight seeing the great metropolis! Thence, via **Palatial Fall River Line Steamer,** due Boston, Saturday morning, stopping in Boston until Monday, Oct. 15.

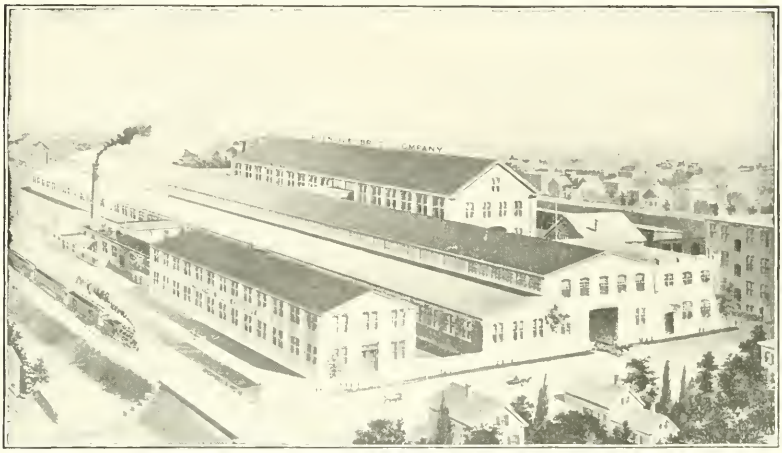
Stop-over in New York 10 days, $2.00.

Illustrated Itinerary on application.

A. S. HANSON, Gen. Pass. Agt., Boston.

PRENTICE BROS. COMPANY,

WORCESTER, MASS.



BUILDERS OF

DRILLING MACHINES AND ENGINE LATHES.

COATES CLIPPERS

Coates Hair Clippers and flexible transmission.

COATES CLIPPER MFG. CO., WORCESTER, MASS.

MATTHEWS MANUFACTURING COMPANY,

MANUFACTURERS OF

STOVE TRIMMINGS,
BALL BEARINGS,

Steam-Pipe Collars,
Ferrules and
Sheet Metal Specialties.

104 Gold Street, Worcester, Mass.
A. T. MATTHEWS, Treasurer.

Commonwealth Press

An establishment fitted for

High Grade Printing

at a minimum cost

Once a customer, always one

O. B. WOOD, Proprietor
50 FOSTER ST., WORCESTER

Bay State House.

American and .. .. European Plan

C. W. RIPLEY, Proprietor .·. WORCESTER, MASS.

WORCESTER

The Mecca of Manufacturers

Largest Manufacturing City in the United States not on a waterway—over 1000 Industrial Plants, employing 26,000 mechanics.

Has more than 3,000,000 people within a radius of 50 miles.

Has four great connecting Railroad Systems with superior shipping facilities.

Has 172 Passenger Trains a day.

Has 293 miles Street Railway Tracks, over which 30,000-000 passengers ride annually.

Has $52,000,000 deposits in Savings Banks, credited to 112,000 depositors.

Has Park System covering more than 1200 acres.

Has most beautiful Water Park in the country.

Has 210 miles of Streets, 176 miles of Sewers and 193 miles of Water Mains.

Has 95 Public Schools and institutions of higher education.

Has 25 Libraries with over 500,000 volumes.

The Largest Loom Works, Valentine, Grinding Wheel, Envelope, Corset, Brussels Carpet, Paper-box Machinery, Skate, Wire-working, Card Clothing and Spring Plants in the World.

For further information regarding Worcester, write to

Secretary Worcester Board of Trade

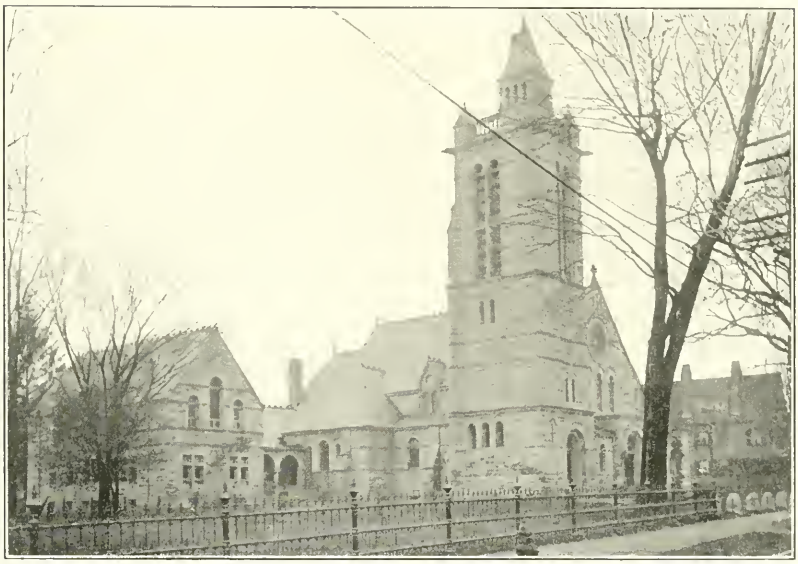
WORCESTER, MASSACHUSETTS

HAMMOND REED COMPANY

MANUFACTURERS OF

Organ Reeds, Reed Boards and other Organ Supplies

Telegraph and Cable Address, "Reeds." Worcester, Mass., U. S. A. **WORCESTER, MASS.**



ST. JOHN'S CHURCH, NORTHAMPTON, MASS.
The Norcross Brothers Co., Builders, Worcester, Mass.

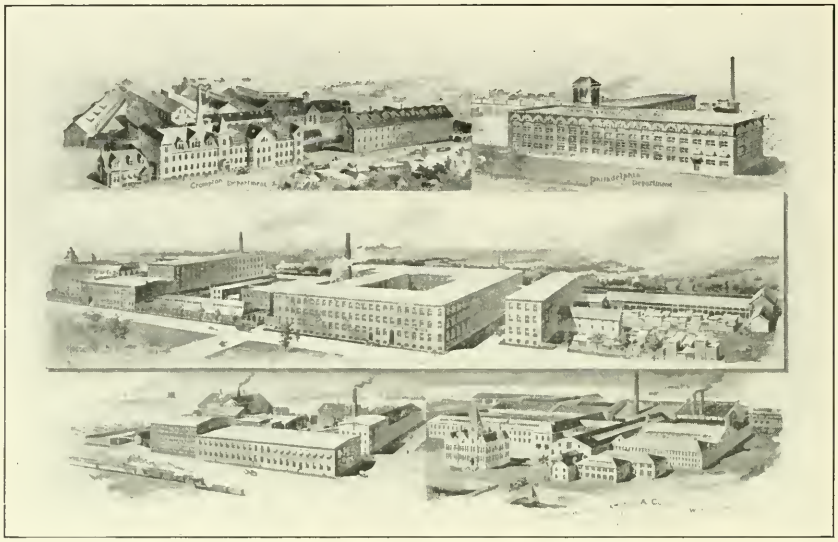
Printing

as printing ought
to be

The Blanchard Press

Six Walnut Street, Worcester, Mass.

LOOMS and REPAIRS



CROMPTON & KNOWLES LOOM WORKS
Worcester Providence Philadelphia

For Statistics of Worcester and List of Things Made

Write to the SECRETARY BOARD OF TRADE

The Worcester Magazine

Vol. IX. CONTENTS FOR NOVEMBER, 1906. No. 11

Frontispiece. Main and Foster Streets—Fifty Years Ago and Now.

Magazine and Municipal Comment.
Residence, Hotel, Church and Bank, 223
Mechanics Hall is Not a Death-trap, 224
Ernest H. Vaughan, City Solicitor, - 225
Worcester Advertised by its Festival, 225
Worcester as a Convention City, - 226
Worcester as a Way Station, - - 226
Savings Banks and Industrial Insurance, - - - - - - - 227
Growth of the Electric Sign, - - 227
To Bar Teachers from Voting Contests, - - - - - - - 228
Municipal Ownership in Canada, - 228

Trade Schools Necessary to Industrial Education. By M. P. Higgins 229

Education Conditions and Results. By Charles F. King, - - - 234

Business Suggestions for Merchants, 240

Published monthly by the Worcester Board of Trade, 11 Foster Street, Worcester, Mass. Committee on Publication, Rufus B. Fowler, G. Stanley Hall, Irving E. Comins, Milton P. Higgins, George W. Mackintire. Terms $1.00 a year; single copies, 10 cents. For sale by newsdealers. Entered at the Post Office, Worcester, Mass., as second-class matter, May 10, 1901.

SPENCER WIRE CO.

WORCESTER, MASS.

ALL KINDS OF

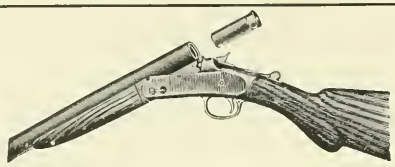
Wire—Wire Articles and Wire Fencing

Ornamental Wrought Iron Work and Fencing

Florist Wire Supplies

That Office Help Is a source of continual anxiety to the business man unless he has the best. Poor help costs more than good help does. **Becker's Business College** has turned out the best class of help employed in Worcester. When in need of such help send to Becker's—the school giving the strongest business training in New England.

Telephone 378-3 **E. C. A. BECKER, Prop.**



Established 1871. Incorporated 1888.

HARRINGTON & RICHARDSON ARMS CO.,

MANUFACTURERS OF

FIREARMS.

Descriptive Catalogue on request. **Worcester, Mass., U. S. A.**

U.S. ENVELOPE CO. USE SPRINGFIELD MASS.

Logan, Swift & Brigham

ENVELOPE CO. DIVISION

Worcester, Massachusetts

MANUFACTURERS OF STANDARD

... Envelopes ...

The Outlook Envelope

Insures economy and absolute accuracy in the addressing of all your mail matter.

The Improved Columbian Clasp Envelope

The best and most satisfactory Merchandise Envelope made.

Specialists in STEEL DIE STAMPING

for Commercial Work. Samples and Prices of our Standard Goods furnished by your Stationer or Printer.

PETER WOOD, Pres. and Treas.

THE PETER WOOD DYEING COMPANY

Bleachers and Dyers of

COTTON, YARNS and WARPS, THREADS, TAPES, BRAIDS, ETC.

Dyers of Alizarine and Indigo Colors

Works on Holmes Street WORCESTER, MASS.

MADE IN WORCESTER === WELL MADE!

A shoe for everybody.
A shoe that fits the foot.
Meets the demand for comfort and style.
The cushion cannot bunch hard—is porous and prevents perspiration.
The shoe is waterproof and dry.
The
WORTH CUSHION SOLE SHOE
is the scientific foot-fitting shoe of the day.

THE CUMMINGS CO., Inc.,
Manufacturers,
60 King Street, Worcester, Mass.

For Sale by
DADMUN & HEYWOOD,
520 Main Street, Knowles Building.

"Everything in Wire"

We manufacture from steel and brass wire a salable line of Hardware and Kitchen Goods Specialties, Belt Hooks; Universal, Jack and Plumbers' Chains; Coat and Hat Hooks; Garment Hangers; Blind Fixtures; Kitchen Wire Goods; Wire Nails, Tacks and Staples. Our line on sale at all Hardware and Department Stores. Special Goods made to order from wire.

The Wire Goods Company
WORCESTER, MASSACHUSETTS

ALUNDUM

is the hardest, sharpest,
most uniform abrasive.

NORTON GRINDING WHEELS

Made of ALUNDUM

Represent the highest efficiency and uniformity in grinding wheels.

NORTON COMPANY, Worcester, Mass.

NIAGARA FALLS NEW YORK CHICAGO

10

Plunger Elevator Co.,

Safe, Long-Lived, Economical, High-Speed Passenger Elevators a Specialty. . . . . .

Hydraulic Plunger

ELEVATORS.

OFFICE AND FACTORY.

BARBER'S, WORCESTER, MASS

The Smith, Green Company

R. C. CLEVELAND, President and Treasurer

Office, Yards and Warehouses: 32 Bloomingdale Road, Worcester, Mass.

Wholesale and Retail Builders' Supplies

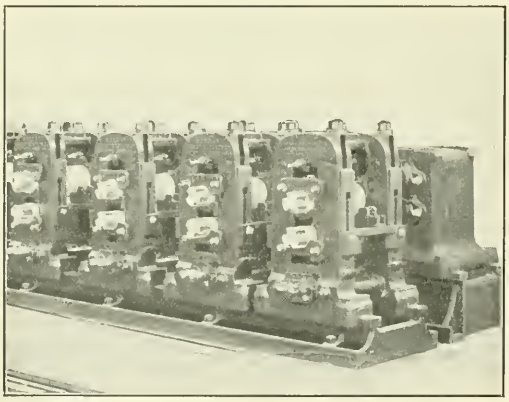
PROPRIETORS OF

Elastic Pulp Plaster Manufacturing Company

Manufacturers of

ELASTIC PULP PLASTER

The only perfect Wall Plaster in the world



MORGAN CONTINUOUS ROLL TRAIN.

Continuous Rolling Mills

Continuous Heating Furnaces

Continuous Gas Producers

Wire Mill Machinery

MORGAN CONSTRUCTION COMPANY

WORCESTER, MASS.

New York Office:
40 EXCHANGE PLACE

European Office:
52 RUE DE CONGRES, BRUSSELS

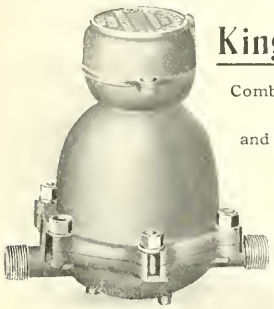
PHOTO GRAPHING & RETOUCH ING - MA CHINERY etc

Half Tones

WOODBURY-CARLTON CO

made at No. 4 Walnut St.

DESIGNS BIRDS EYE VIEWS ART PRINT



THE

King Disc Meter

Combining Best Material and Workmanship.

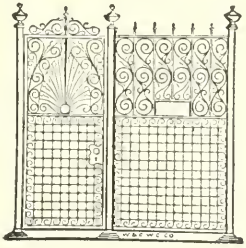
Contractors, Patronize Home Industry.

UNION WATER METER COMPANY,

Worcester, Mass.

WRIGHT WIRE CO.

WIRE AND WIRE CLOTH



WIRE GUARD WORK.

Elevator Cabs and Enclosures

Coal Screens and Riddles.

POULTRY NETTING.

WORCESTER, MASS. PALMER, MASS.

WORCESTER MACHINE SCREW CO.,

STANDARD SCREW CO. SUCCESSORS.

MANUFACTURERS OF

SET, CAP AND MACHINE

SCREWS

IN IRON, STEEL AND BRASS.

STUDS FOR STEAM ENGINES, PUMPS, ETC.

WORCESTER, MASS.

Worcester Has More Than 1000 Manufacturing Plants

Employing 26,000 Wage Earners

Its Annual Pay-roll is $13,000,000

The Value of Products annually produced is upward of $54,000,000

Write the Board of Trade for Particulars

In writing to advertisers, please mention the Worcester Magazine.

The most favorable place for the location of a Manufacturing Business.

Worcester

Massachusetts

Water Rate To Manufacturers Ten Cents per 1000 Gallons.

Central Location.

Unrivalled Railroad Facilities.

High-Grade Mechanics.

Unfailing Supply of Help.

Superior Schools the Attraction for Labor.

For further information address

Secretary,

Board of Trade.

WORCESTER BUSINESS DIRECTORY.

MANUFACTURERS AND DEALERS.

AGRICULTURAL IMPLEMENTS.

Worcester Kemp Manure Spreader, Buckeye Mower, Bullard Hay Tedder, Worcester Rake. RICHARDSON MANUFACTURING CO., 84 Prescott St., Worcester.

ARCHITECTS.

George H. Clemence, Architect, Walker Building, Room 205, 405 Main Street, Worcester, Mass.

Stephen C. Earle, Architect, Room 45, Burnside Building, 339 Main Street, Worcester, Mass.

Fuller & Delano Company, Architects, 452 Main St. Worcester, Mass. Ward P. Delano, Robt. L. Fuller

Clellan Waldo Fisher, Architect. Office, 718 State Mutual Building, Worcester.

Frost, Briggs & Chamberlain, Architects, Offices 518 Main Street, Knowles Building, Worcester, Mass.

ASH SIFTERS.

"Hustler" Ash Sifter. HILL DRYER CO., 340-350 Park Avenue, Worcester, Mass.

BALL BEARINGS.

Worcester Pressed Steel Co., North Ave.; take Barber's Crossing Car. Automobile and Bicycle Parts. Metal Stampings.

BANKS.

People's Savings Bank, 452 Main Street. See Advt.

Worcester County Institution for Savings, 13 Foster St. See Advt.

Worcester Five Cents Savings Bank, 314 Main St. See Advt.

Worcester Mechanics Savings Bank, 311 Main St. See Advt.

Worcester National Bank, 9 Foster Street. See Advt.

Worcester Trust Co., 448 Main Street. See Advt.

BELTING.

Oak tanned leather belting always in stock. GRATON & KNIGHT MFG. CO., Bloomingdale Road. See Advt.

Pure Oak Bark Tanned Leather Belting. Special Waterproof Belting, "B. & F." Belting, Dynamo Belts and other specials. Mill Supplies. J. F. & W. H. WARREN CO., 44 Vine Street, Worcester, Mass.

BLACKSMITHS.

Common Sense Shoeing Forge. JOHN J. GRADY, 162 Mechanic Street. Tel. 1028-6.

BOLTS AND NUTS.

Bolts, cold punched nuts and washers, die making and metal punching. THOMAS SMITH CO., Frank W. Foye, 14 Cypress Street.

BOOK BINDERY.

Book Binders and Paper Rulers. J. S. WESBY & SONS, 387 Main Street and 50 Foster Street.

BUILDERS' SUPPLIES.

Builders' Supplies. SMITH, GREEN CO., 32 Bloomingdale Road. See Advt.

BUSINESS COLLEGES.

Bookkeepers, stenographers and typewriters. BECKER'S BUSINESS COLLEGE, 492 Main St. See Advt.

Business Men when in need of carefully trained Bookkeepers and Stenographers apply to C. B. POST, WORCESTER BUSINESS INSTITUTE, 476 Main Street.

CALENDARS.

Advertising Calendars, Blotters, Circulars, Booklets, Mailing Cards, Etc. PROGRESS PUB. CO., 377 Main St.

CHAINS.

Jack Chains, Ladder Chains, all kinds of Metal. HALE BROTHERS COMPANY, 42 Lagrange Street.

CLOTHES DRYERS.

For Lawn, Balcony or Roof. HILL DRYER CO., 340 to 350 Park Avenue, Worcester, Mass.

CONTRACTORS AND BUILDERS.

Builders of public, commercial and manufacturing buildings and private residences. J. W. BISHOP CO., Worcester, Boston, Providence, New York.

E. J. Cross, General Contractor. Estimates furnished on any class of buildings. Office, 82 Foster Street, Worcester.

Public and mercantile buildings a specialty. THE NORCROSS BROS. CO. See Advt.

DECORATORS AND PAINTERS.

Artistic frescoing and decorating of churches, halls and residences, sign and house painting. SANDGREN & EHNBORG, 274 Main Street. Tel. 983-4.

ELECTRICAL ENGINEERS AND CONTRACTORS.

Electrical Contractors and Dealers in Supplies. We install Dynamos and Motors, Telephones, Lighting, Etc. PAGE ELECTRIC CO., 24 Pearl Street.

Electrical Supplies, construction Automatic Telephone Systems. PLUMMER, HAM & RICHARDSON, 619 Main Street.

ELECTRIC LIGHT AND POWER.

Electric Light and Power supplied by WORCESTER ELECTRIC LIGHT COMPANY, 66 Faraday Street, Worcester, Mass.

ELEVATORS.

Hydraulic plunger elevators. PLUNGER ELEVATOR CO., Barber's. See Advt.

GRINDING WHEELS.

Grinding Wheels, grinding machinery and India oil stones. NORTON CO. See Advt.

ENGRAVING.

Half-Tone Work done artistically. WOODBURY-CARLTON CO., 4 Walnut Street. See Advt.

ENGINE LATHES.

Drilling Machines and engine lathes. PRENTICE BROTHERS, Cambridge Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

ENGINEERS.

Mill Buildings, Steel, Concrete Construction; Power Installations, THOMPSON & GALLAGHER, 339 Main St.

ENVELOPE MANUFACTURERS.

Envelopes and Envelope Specialties. LOGAN, SWIFT & BRIGHAM DIVISION. See Agv.

FIREARMS.

Guns and pistols of all kinds. HARRINGTON & RICHARDSON ARMS CO., Park Avenue. See Advt.

FOUNDRIES.

Light and heavy Iron Castings. JACKSON STREET FOUNDRY, J. A. Colvin, Prop., 52 Jackson Street.

GAS ENGINES.

Greendale Gas Engine Co., manufacturers of Gas and Gasoline Engines. S. F. BURLINGAME, Manager. Shop 'Phone 1063-2.

HOTEL.

Bay State House, European plan. C. W. RIPLEY, proprietor. See Advt.

IRON AND STEEL.

Supplies for blacksmiths, carriage-makers. GEO. F. BLAKE, JR., & CO. Office and storehouse Mechanic and Foster Streets. Tel. 2508-2509.

IRON FOUNDERS.

High Grade Machinery Castings. STANDARD FOUNDRY CO., Tainter Street. See Advt.

INSURANCE.

General insurance agency. CHARLES E. GRANT, Rooms 711 and 712 State Mutual Building.

Life Policies. STATE MUTUAL LIFE ASSURANCE CO. See Advt.

LEATHER AND CANVAS GOODS.

Suit Cases and Bags, Toilet Cases, Music Goods, Etc. WARREN LEATHER GOODS CO., 80 Austin Street.

LEATHER BELTING.

Hudson's extra oak-tanned Leather Belting always in stock. HUDSON BELTING CO., Eaton Place. See Advt.

LOOMS AND REPAIRS.

Looms and Repairs. CROMPTON & KNOWLES LOOM WORKS. See Advt.

LUMBER.

W. H. Sawyer Lumber Co. Hard Pine Timber a specialty. All kinds Finish constantly in kiln.

Stone & Foster Lumber Co., Central and Union Sts. General line of lumber, wholesale or retail.

MACHINE SCREWS.

Machine Screws in iron, steel and brass. WORCESTER MACHINE SCREW CO., Beacon Street. See Advt.

MACHINISTS' TOOLS.

Planers a specialty, Machine Tools, Lathes and Drills. J. S. WHEELER & CO., 23 Hermon Street.

Lathes, Punches and Shears. W. C. YOUNG, 17 Hermon Street.

METAL SPECIALTIES.

Stove Trimmings, steampipe collars and ferrules. MATTHEWS MFG. CO., 104 Gold Street. See Advt.

MILL SUPPLIES.

Crawford & Co., 665 Main Street. Everything in Mill Supplies, Wool Stock, Cotton and Cotton Waste.

OVERALLS.

Overalls, Shirts, Frocks, Etc. A. G. HILDRETH, 25 Hermon Street, Worcester, Mass.

PATENT CURTAIN RODS.

Adjustable Curtain Rods and Sockets. FOWLER & CO., 65 Beacon Street, Worcester, Mass.

PRINTING.

Good Printing quickly executed. F. S. BLANCHARD & CO., 6 Walnut Street. See Advt.

Printing and Engraving, HURLEY'S PRINTERY, 38 and 44 Front Street.

Posters, Show Cards, Theatrical and Commercial Printing. C. R. STOBBS, 16 Mechanic Street.

Commercial Printing and Blank-book Work. O. B. WOOD, 50 Foster Street. See Advt.

RAILROADS.

Boston & Albany division of N. Y. C. & H. R. R. R. See Advt.

RAZORS.

Manufacturers of all styles, including Safety Razors. J. R. TORREY RAZOR CO., Chandler Street.

REEDS.

Organ Reeds and Reed Boards. HAMMOND REED CO., Worcester, Mass. See Advt.

RAZOR STROPS.

Manufacturers of all styles of Strops, also Stropping Machine. J. R. TORREY & CO., Chandler Street.

ROLLING MILLS.

Continuous Rolling Mills, Gas Producers and Wire Mill Machinery. MORGAN CONSTRUCTION CO. See Adv.

SHOE MANUFACTURERS.

Heywood, the Worcester made Shoe. HEYWOOD BOOT & SHOE CO., Retail Store 415 Main Street. See Advt.

SLIPPERS.

Shoes and Slippers, Barefoot Sandals. Felt footwear a specialty. WORCESTER SLIPPER CO., J. P. Grosvenor, Prop., 370 Park Avenue.

STAMPINGS.

Worcester Pressed Steel Co., North Ave.; take Barbers' Crossing car. Light and heavy Stampings in all metals.

STEAM AND GAS FITTERS.

Braman, Dow & Co., Contractors for Heating Apparatus, Steam, Water or Vapor. Mill Piping a specialty. Summer Street.

STEAM AND GAS SUPPLIES.

Leading Makes of steam and hot water heaters. CENTRAL SUPPLY CO., 35 Waldo Street. See Advt.

SUIT CASES AND BAGS.

Largest and best variety, up-to-date in every respect. WARREN LEATHER GOODS CO.

WORCESTER BUSINESS DIRECTORY—Continued.

TACKS AND NAILS.

Shoe Tacks, Hungarian Nails, Hob Nails. P. E. SOMERS, 17 Hermon Street, Worcester, Mass.

TAXIDERMIST.

Chas K. Reed, Naturalists' Supplies. 75 Thomas Street, corner Union, Worcester Mass

VALENTINES.

Valentines, Holiday Goods, Easter Novelties. THE GEO. C. WHITNEY CO., 67 Union Street, Worcester.

WATER METERS.

The Best Known Meter. UNION WATER METER CO. Hermon Street. See Advt.

WIRE FLY KILLER.

Bigelow Wire Fly Killer. It kills but does not crush the fly. J. F. BIGELOW, 11 Foster Street.

WIRE GOODS.

Wire of all Kinds. SPENCER WIRE CO., Worcester and Spencer. See Advt.

Wire Goods and Wire Novelties. WORCESTER WIRE GOODS CO. See Advt.

Wire, wire cloth and poultry netting. WRIGHT WIRE CO., Worcester and Palmer. See Advt.

WOOL-SPINNING MACHINERY.

Johnson & Bassett, Wool-Spinning Machinery. 114 Foster Street, Worcester, Mass.

BANKS.

WORCESTER NATIONAL BANK, 9 Foster Street. Incorporated as a State Bank in 1804; as a National Bank in 1864. Capital, $250,000; surplus and undivided profits, $321,508.72. Dividends April and October; rate past year, 8 per cent. President, James P. Hamilton; Cashier, Samuel D. Spurr; Assistant Cashier, F M. Hedden; Directors, A. George Bullock, Charles A. Chase, James P. Hamilton, Lincoln N. Kinnicutt, Edward L. Davis, George F. Brooks, Paul B. Morgan, Reginald Washburn, Matthew J. Whittall.

WORCESTER TRUST COMPANY, 344 Main Street. Incorporated in 1868. Crpital, $500,000; surplus, $500,000. Dividends January, April, July and October; rate past year, 6 per cent. William D. Lucy, President; Henry A. Marsh, Nathaniel Paine, Henry P. Murray, Vice Presidents; Samuel H. Ciary, Treasurer; Alvin S. Daniels, Secretary; Chairman of Board of Directors, Henry A. Marsh; Directors, Charles S. Barton, Geo. F. Blake, A. George Bullock, John H. Coes, Alexander DeWitt, Thomas B. Eaton, William Endicott, Jr., Henry F. Harris, Rockwood Hoar, C. Henry Hutchins, Lincoln N. Kinnicutt, Edwin T. Marble, J. Russell Marble, Neal Rantoul, Wm. H. Sawyer, Frank Bulkeley Smith, E. D. Thayer, Chas. M. Thayer, Robert M. Washburn, George W. Wells, M. J. Whittall, G. Marston Whitin, Charles A. Williams, Robert Winsor, A. W. Parmelee, A. O. Young.

PEOPLE'S SAVINGS BANK, 452 Main Street. Incorporated in 1864. Deposits Februrry 1, $11,450,000. Guaranty Fund, $540,000. Number of depositors, 24,234. Deposits put upon interest February, May, August and November 1st. Dividends payable February and August 2d and added to the principal as of the 1st of those months if not withdrawn. President, Samuel R. Heywood; Treasurer, Charles M. Bent; Assistant Treasurer, Frederick W. White; Investment Committee, Samuel R. Heywood, Edwin T. Marble, Henry M. Harris, Charles M. Thayer, Alexander DeWitt.

THE WORCESTER MECHANICS SAVINGS BANK, Worcester, Mass. Organized, 1851. Officers: President, A. B. R. Sprague; Vice Presidents, John H. Coes, Thomas B. Eaton, Eli J. Whittemore; Treasurer, Frank W. Cutting; Trustees, A. B. R. Sprague, Thomas B. Eaton, Thomas G. Kent, Eli J. Whittemore, John H. Coes, Francis H. Dewey, Chas. A. Hill, Chas. F. Hanson, Geo. E. Merrill, Levis G. White, Francis W. Blacker, Henry S. Pratt, Arthur P. Rugg, Chas. D. Lamson.

WORCESTER FIVE CENTS SAVINGS BANK, 314 Main Street. Incorporated, April 1, 1854. Assets, $10,473,732.59; number of depositors, 34,421. Deposits received from five cents to $1000 and placed on interest January, April, July and October. Dividends payable on and after January 15 and July 15. President, Henry M. Witter; Vice Presidents, Simeon N. Story, Gilbert J. Rugg, Edwin Brown, Roger F. Upham, Otis E. Putnam, James Draper; Treasurer, J. Stewart Brown.

WORCESTER COUNTY INSTITUTION FOR SAVINGS, 13 Foster Street. Incorporated, February 5, 1828. Deposits, $20,430,771.54; assets, $21,912,744.63; number depositors, 39,955. Deposits put on interest January, April, July and October. Dividends payable January 15 and July 15. President, Charles A. Chase; Vice Presidents, Edward L. Davis, George E. Francis, Thomas H. Gage; Treasurer, Alfred L. Aiken; Board of Investment, Charles A. Chase, Samuel B. Woodward, George E. Francis, Lyman A. Ely, A. George Bullock; Clerk of Corporation, Charles F. Aldrich.

The Old Family Wine Store

SOLE MANUFACTURERS OF

G. F. H. PRIVATE STOCK WHISKEY

and

Cold Blast Ginger Ale

Write for Price List

GEO. F. HEWETT CO.

Established 1860
Telephone 2455

41, 43, 45 Waldo St., Worcester, Mass.

Boston & Albany RAILROAD
N. Y. C. & H. R. R. R. R., LESSEE.

NEW YORK CENTRAL LINES

Sleeping Car Service
Between Worcester and New York City

Via Boston & Albany R. R., over "Springfield Line."

Sleeper is placed in the Depot at 10.30 p.m., and may be occupied at that time; leaves 12.44 midnight; due New York City at 6.48 a.m.; sleeper will remain in Grand Central Station until 7 o'clock.

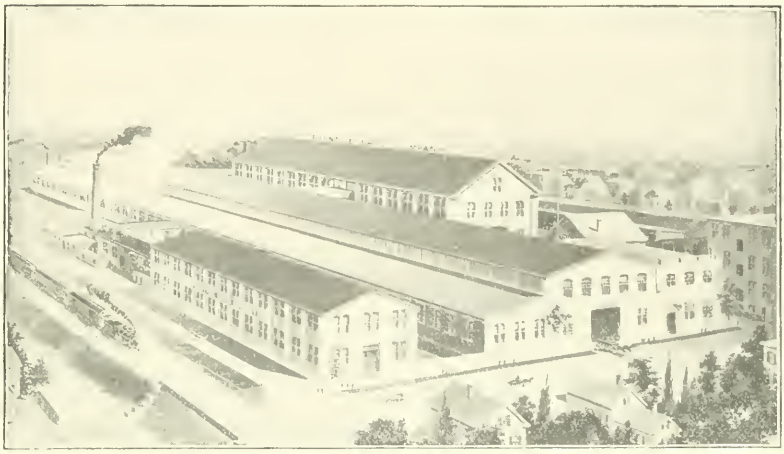
Returning Sleeper is placed in Grand Central Station 10 p.m., and may be occupied at that time; leaves at 11.00 p.m. Will be sidetracked at Worcester so that passengers may remain in car until 7 a.m. if desired.

10 TRAINS A DAY leave Worcester via New York Central Lines, as follows: 6.24, 9.40, 11.23, 11.55 a.m.; 1.05, 3.09, 4.39, 7.10, 9.09 p.m.; 1.05 a.m.

For reservations call on W. U. Bixby, Ticket Agent, Union Station.
J. E. Sweeney, City Ticket and Passenger Agent, 385 Main Street, Worcester.
A. S. HANSON, General Passenger Agent, Boston.

PRENTICE BROS. COMPANY,

WORCESTER, MASS.



BUILDERS OF

DRILLING MACHINES AND ENGINE LATHES.

COATES CLIPPERS

Coates Hair Clippers and flexible transmission.

COATES CLIPPER MFG. CO., WORCESTER, MASS.

MATTHEWS MANUFACTURING COMPANY,

MANUFACTURERS OF

STOVE TRIMMINGS,
BALL BEARINGS,

Steam-Pipe Collars,
Ferrules and
Sheet Metal Specialties.

104 Gold Street, Worcester, Mass.
A. T. MATTHEWS, Treasurer.

Commonwealth Press

An establishment fitted for

High Grade Printing

at a minimum cost

Once a customer, always one

O. B. WOOD, Proprietor
50 FOSTER ST., WORCESTER

Bay State House.

American and . .
.. European Plan

C. W. RIPLEY, Proprietor .·. WORCESTER, MASS.

WORCESTER

The Mecca of Manufacturers

Largest Manufacturing City in the United States not on a waterway—over 1000 Industrial Plants, employing 26,000 mechanics.

Has more than 3,000,000 people within a radius of 50 miles.

Has four great connecting Railroad Systems with superior shipping facilities.

Has 172 Passenger Trains a day.

Has 293 miles Street Railway Tracks, over which 30,000-000 passengers ride annually.

Has $52,000,000 deposits in Savings Banks, credited to 112,000 depositors.

Has Park System covering more than 1200 acres.

Has most beautiful Water Park in the country.

Has 210 miles of Streets, 176 miles of Sewers and 193 miles of Water Mains.

Has 95 Public Schools and institutions of higher education.

Has 25 Libraries with over 500,000 volumes.

The Largest Loom Works, Valentine, Grinding Wheel, Envelope, Corset, Brussels Carpet, Paper-box Machinery, Skate, Wire-working, Card Clothing and Spring Plants in the World.

For further information regarding Worcester, write to

Secretary Worcester Board of Trade

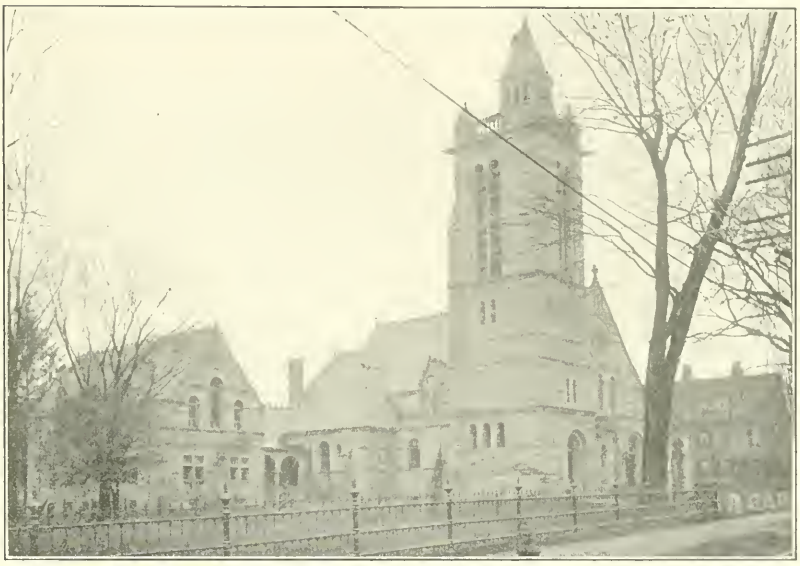
WORCESTER, MASSACHUSETTS

HAMMOND REED COMPANY

MANUFACTURERS OF

Organ Reeds, Reed Boards and other Organ Supplies

Telegraph and Cable Address. "Reeds." Worcester, Mass., U. S. A. **WORCESTER, MASS.**



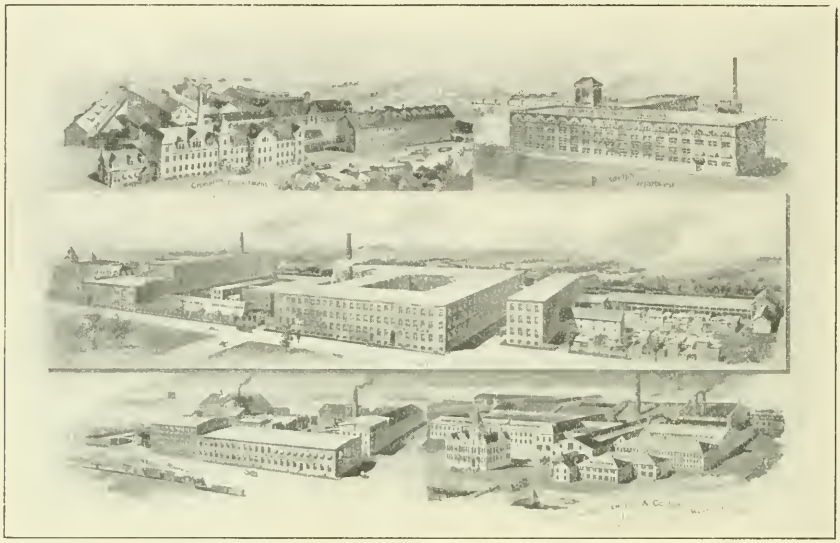
ST. JOHN'S CHURCH, NORTHAMPTON, MASS.
The Norcross Brothers Co., Builders, Worcester, Mass.

Printing

as printing ought
to be

The Blanchard Press
Six Walnut Street, Worcester, Mass.

LOOMS and REPAIRS



CROMPTON & KNOWLES LOOM WORKS

Worcester Providence Philadelphia

For Statistics of Worcester and List of Things Made

Write to the SECRETARY BOARD OF TRADE

The Worcester Magazine

Vol. IX. CONTENTS FOR DECEMBER, 1906. No. 12

Frontispiece. Congressman-Elect Charles G. Washburn.

Magazine and Municipal Comment.

Interesting Paper by John R. Back, 245

Odd Fellows Have a New Temple, - 245

For a Permanent Exhibition, - - 246

Congressman Rockwood Hoar, - 247

Another Rush for City Offices, - 247

Growth of Socialism, - - 248

Instruction in City Government, - 248

Hon. Charles Grenfill Washburn, - 249

Is Organized Wealth a Menace to Republican Institutions? By James Logan, - - - - - - 251

Conduct of a Successful Machine Shop. By John R. Back, - - 258

Published monthly by the Worcester Board of Trade, 11 Foster Street, Worcester, Mass. Committee on Publication, Rufus B. Fowler, G. Stanley Hall, Irving E. Comins, Milton P. Higgins, George W. Mackintire. Terms $1.00 a year; single copies, 10 cents. For sale by newsdealers. Entered at the Post Office, Worcester, Mass., as second-class matter, May 10, 1901.

SPENCER WIRE CO.

WORCESTER, MASS.

ALL KINDS OF

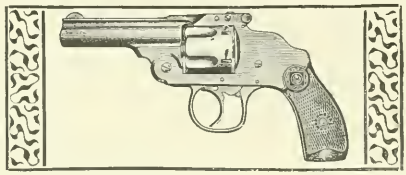
Wire—Wire Articles and Wire Fencing

Ornamental Wrought Iron Work and Fencing

Florist Wire Supplies

That Office Help Is a source of continual anxiety to the business man unless he has the best. Poor help costs more than good help does. **Becker's Business College** has turned out the best class of help employed in Worcester. When in need of such help send to Becker's—the school giving the strongest business training in New England.

Telephone 378-3 **E. C. A. BECKER, Prop.**



Established 1871. Incorporated 1888.

HARRINGTON & RICHARDSON ARMS CO.,

Manufacturers of

FIREARMS.

Descriptive Catalogue on request. WORCESTER, MASS., U. S. A.

U.S. ENVELOPE CO. USE SPRINGFIELD, MASS.

Logan, Swift & Brigham

ENVELOPE CO. DIVISION

Worcester, Massachusetts

MANUFACTURERS OF STANDARD

... Envelopes ...

The Outlook Envelope

Insures economy and absolute accuracy in the addressing of all your mail matter.

The Improved Columbian Clasp Envelope

The best and most satisfactory Merchandise Envelope made.

Specialists in STEEL DIE STAMPING

for Commercial Work. Samples and Prices of our Standard Goods furnished by your Stationer or Printer.

"Everything in Wire"

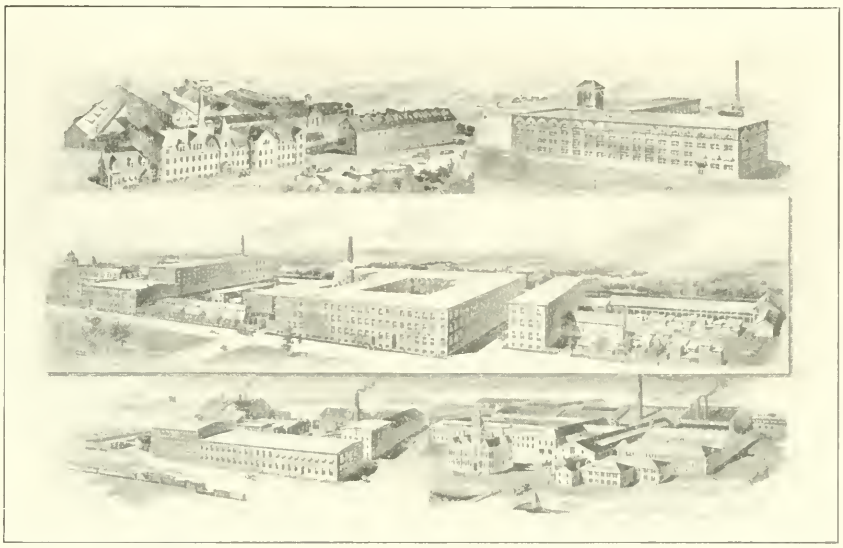
We manufacture from steel and brass wire a salable line of Hardware and Kitchen Goods Specialties, Belt Hooks; Universal, Jack and Plumbers' Chains; Coat and Hat Hooks; Garment Hangers; Blind Fixtures; Kitchen Wire Goods; Wire Nails, Tacks and Staples. Our line on sale at all Hardware and Department Stores. Special Goods made to order from wire.

The Wire Goods Company

WORCESTER, MASSACHUSETTS

In writing to advertisers, please mention the Worcester Magazine.

LOOMS and REPAIRS



CROMPTON & KNOWLES LOOM WORKS

Worcester Providence Philadelphia

ALUNDUM TRADE MARK NORTON REGISTERED MADE BY PATENTED ELECTRIC PROCESS

Norton Grinding Wheels

Made of

ALUNDUM

Secure accurate and uniform results in work. In *grinding wheels* the abrasive grain of given size is bonded together to produce a certain grade of temper for a certain kind of work. All our grinding problems can be solved with the *right grade* and *grain* of NORTON GRINDING WHEEL. We shall be pleased to study your conditions and advise you.

Norton Company

Worcester, Mass.

Niagara Falls New York Chicago

36

Plunger Elevator Co.,

Safe, Long-Lived, Economical, High-Speed Passenger Elevators a Specialty. . . . . .

Hydraulic Plunger

ELEVATORS.

OFFICE AND FACTORY.

BARBER'S, WORCESTER, MASS

The Smith, Green Company

R. C. CLEVELAND, President and Treasurer

Office, Yards and Warehouses: 32 Bloomingdale Road, Worcester, Mass.

Wholesale and Retail Builders' Supplies

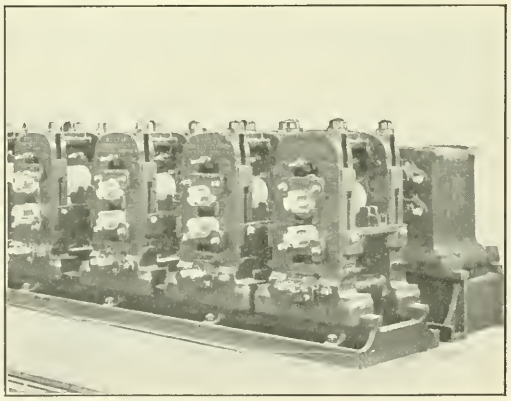
PROPRIETORS OF

Elastic Pulp Plaster Manufacturing Company

Manufacturers of

ELASTIC PULP PLASTER

The only perfect Wall Plaster in the world



MORGAN CONTINUOUS ROLL TRAIN.

Continuous Rolling Mills

Continuous Heating Furnaces

Continuous Gas Producers

Wire Mill Machinery

MORGAN CONSTRUCTION COMPANY

WORCESTER, MASS.

New York Office:
40 EXCHANGE PLACE

European Office:
52 RUE DE CONGRES, BRUSSELS

PHOTOGRAPHING & RETOUCHING - MACHINERY etc

Half Tones

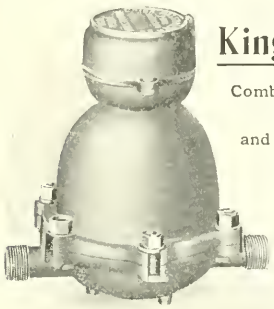
WOODBURY-CARLTON CO

made at No. 4 Walnut St.

DESIGNS BIRDS EYE VIEWS ART PRINT

THE

King Disc Meter



Combining Best Material and Workmanship.

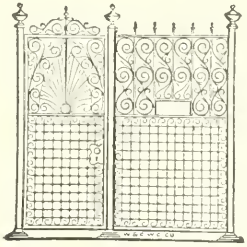
Contractors, Patronize Home Industry.

UNION WATER METER COMPANY,

Worcester, Mass.

WRIGHT WIRE CO.

WIRE AND WIRE CLOTH



WIRE GUARD WORK.

Elevator Cabs and Enclosures

Coal Screens and Riddles.

POULTRY NETTING.

WORCESTER, MASS. PALMER, MASS.

WORCESTER MACHINE SCREW CO.,

STANDARD SCREW CO. SUCCESSORS.

MANUFACTURERS OF

SET, CAP AND MACHINE

SCREWS

IN IRON, STEEL AND BRASS.

STUDS FOR STEAM ENGINES, PUMPS, ETC.

WORCESTER, MASS.

Worcester Has More Than 1000 Manufacturing Plants

Employing 26,000 Wage Earners

Its Annual Pay-roll is $13,000,000

The Value of Products annually produced is upward of $54,000,000

Write the Board of Trade for Particulars

In writing to advertisers, please mention the Worcester Magazine.

JAMAICA WHERE SUMMER IS 12 MONTHS LONG

Nowhere can winter be spent so delightfully

THE UNITED FRUIT COMPANY'S
Steel Twin-Screw U. S. Mail Steamships

Sailings Weekly from Boston, Philadelphia and Baltimore

Round Trip Fare, $75 including meals and berth in stateroom Single Fare, $40

Write for Jamaica Literature describing and illustrating the Island and tours of interest. Address General Passenger Agent

UNITED FRUIT COMPANY

Long Wharf, Boston.

UNITED FRUIT COMPANY

Or call on either of the following Worcester Agents:

J. F. HEALY, 368 Main St. O. F. RAWSON, 391 Main St.
J. E. SWEENEY, 385 Main Street.

WORCESTER BUSINESS DIRECTORY.

MANUFACTURERS AND DEALERS.

AGRICULTURAL IMPLEMENTS.

Worcester Kemp Manure Spreader, Buckeye Mower, Bullard Hay Tedder, Worcester Rake. RICHARDSON MANUFACTURING CO., 84 Prescott St., Worcester.

ARCHITECTS.

George H. Clemence, Architect, Walker Building, Room 205, 405 Main Street, Worcester, Mass.

Stephen C. Earle, Architect, Room 45, Burnside Building, 339 Main Street, Worcester, Mass.

Fuller & Delano Company, Architects, 452 Main St. Worcester, Mass. Ward P. Delano, Robt. L. Fuller

Clellan Waldo Fisher, Architect. Office, 718 State Mutual Building, Worcester.

Frost, Briggs & Chamberlain, Architects, Offices 518 Main Street, Knowles Building, Worcester, Mass.

ASH SIFTERS.

"Hustler" Ash Sifter. HILL DRYER CO., 340-350 Park Avenue, Worcester, Mass.

BALL BEARINGS.

Worcester Pressed Steel Co., North Ave.; take Barber's Crossing Car. Automobile and Bicycle Parts. Metal Stampings.

BANKS.

People's Savings Bank, 452 Main Street. See Advt.

Worcester County Institution for Savings, 13 Foster St. See Advt.

Worcester Five Cents Savings Bank, 314 Main St. See Advt.

Worcester Mechanics Savings Bank, 311 Main St. See Advt.

Worcester National Bank, 9 Foster Street, See Advt.

Worcester Trust Co., 448 Main Street. See Advt.

BELTING.

Oak tanned leather belting always in stock. GRATON & KNIGHT MFG. CO., Bloomingdale Road. See Advt.

Pure Oak Bark Tanned Leather Belting. Special Waterproof Belting, "B. & F." Belting, Dynamo Belts and other specials. Mill Supplies. J. F. & W. H. WARREN CO., 44 Vine Street, Worcester, Mass.

BLACKSMITHS.

Common Sense Shoeing Forge. JOHN J. GRADY, 162 Mechanic Street. Tel. 1028-6.

BOLTS AND NUTS.

Bolts, cold punched nuts and washers, die making and metal punching. THOMAS SMITH CO., Frank W. Foye, 14 Cypress Street.

BOOK BINDERY.

Book Binders and Paper Rulers. J. S. WESBY & SONS, 387 Main Street and 50 Foster Street.

BUILDERS' SUPPLIES.

Builders' Supplies. SMITH, GREEN CO., 32 Bloomingdale Road. See Advt.

BUSINESS COLLEGES.

Bookkeepers, stenographers and typewriters. BECKER'S BUSINESS COLLEGE, 492 Main St. See Advt.

Business Men when in need of carefully trained Bookkeepers and Stenographers apply to C. B. POST, WORCESTER BUSINESS INSTITUTE, 476 Main Street.

CALENDARS.

Advertising Calendars, Blotters, Circulars, Booklets, Mailing Cards, Etc. PROGRESS PUB. CO., 377 Main St.

CHAINS.

Jack Chains, Ladder Chains, all kinds of Metal. HALE BROTHERS COMPANY, 42 Lagrange Street.

CLOTHES DRYERS.

For Lawn, Balcony or Roof. HILL DRYER CO., 340 to 350 Park Avenue, Worcester, Mass.

CONTRACTORS AND BUILDERS.

Builders of public, commercial and manufacturing buildings and private residences. J. W. BISHOP CO., Worcester, Boston, Providence, New York.

E. J. Cross, General Contractor. Estimates furnished on any class of buildings. Office, 82 Foster Street, Worcester.

Public and mercantile buildings a specialty. THE NORCROSS BROS. CO. See Advt.

DECORATORS AND PAINTERS.

Artistic frescoing and decorating of churches, halls and residences, sign and house painting. SANDGREN & EHNBORG, 274 Main Street. Tel. 983-4.

ELECTRICAL ENGINEERS AND CONTRACTORS.

Electrical Contractors and Dealers in Supplies. We install Dynamos and Motors, Telephones, Lighting, Etc. PAGE ELECTRIC CO., 24 Pearl Street.

Electrical Supplies, construction Automatic Telephone Systems. PLUMMER, HAM & RICHARDSON, 619 Main Street.

ELECTRIC LIGHT AND POWER.

Electric Light and Power supplied by WORCESTER ELECTRIC LIGHT COMPANY, 66 Faraday Street, Worcester, Mass.

ELEVATORS.

Hydraulic plunger elevators. PLUNGER ELEVATOR CO., Barber's. See Advt.

GRINDING WHEELS.

Grinding Wheels, grinding machinery and India oil stones. NORTON CO. See Advt.

ENGRAVING.

Half-Tone Work done artistically. WOODBURY-CARLTON CO., 4 Walnut Street. See Advt.

ENGINE LATHES.

Drilling Machines and engine lathes. PRENTICE BROTHERS, Cambridge Street. See Advt.

WORCESTER BUSINESS DIRECTORY—Continued.

ENGINEERS.

Mill Buildings, Steel, Concrete Construction; Power Installations. THOMPSON & GALLAGHER, 339 Main St.

ENVELOPE MANUFACTURERS.

Envelopes and Envelope Specialties. LOGAN, SWIFT & BRIGHAM DIVISION. See Adv.

FIREARMS.

Guns and pistols of all kinds. HARRINGTON & RICHARDSON ARMS CO., Park Avenue. See Advt.

FOUNDRIES.

Light and heavy Iron Castings. JACKSON STREET FOUNDRY, J. A. Colvin, Prop., 52 Jackson Street.

GAS ENGINES.

Greendale Gas Engine Co., manufacturers of Gas and Gasoline Engines. S. F. BURLINGAME, Manager. Shop 'Phone 1063-2.

HOTEL.

Bay State House, European plan. C. W. RIPLEY, proprietor. See Advt.

IRON AND STEEL.

Supplies for blacksmiths, carriage-makers. GEO. F. BLAKE, JR., & CO. Office and storehouse Mechanic and Foster Streets. Tel. 2508-2509.

IRON FOUNDERS.

High Grade Machinery Castings. STANDARD FOUNDRY CO., Tainter Street. See Advt.

INSURANCE.

General insurance agency. CHARLES E. GRANT, Rooms 711 and 712 State Mutual Building.

Life Policies. STATE MUTUAL LIFE ASSURANCE CO. See Advt.

LEATHER AND CANVAS GOODS.

Suit Cases and Bags, Toilet Cases, Music Goods, Etc. WARREN LEATHER GOODS CO., 80 Austin Street.

LEATHER BELTING.

Hudson's extra oak-tanned Leather Belting always in stock. HUDSON BELTING CO., Eaton Place. See Advt.

LOOMS AND REPAIRS.

Looms and Repairs. CROMPTON & KNOWLES LOOM WORKS. See Advt.

LUMBER.

W. H. Sawyer Lumber Co. Hard Pine Timber a specialty. All kinds Finish constantly in kiln.

Stone & Foster Lumber Co., Central and Union Sts. General line of lumber, wholesale or retail.

MACHINE SCREWS.

Machine Screws in iron, steel and brass. WORCESTER MACHINE SCREW CO., Beacon Street. See Advt.

MACHINISTS' TOOLS.

Planers a specialty, Machine Tools, Lathes and Drills. J. S. WHEELER & CO., 23 Hermon Street.

Lathes, Punches and Shears. W. C. YOUNG, 17 Hermon Street.

METAL SPECIALTIES.

Stove Trimmings, steampipe collars and ferrules. MATTHEWS MFG. CO., 104 Gold Street. See Advt.

MILL SUPPLIES.

Crawford & Co., 665 Main Street. Everything in Mill Supplies, Wool Stock, Cotton and Cotton Waste.

OVERALLS.

Overalls, Shirts, Frocks, Etc. A. G. HILDRETH, 25 Hermon Street, Worcester, Mass.

PATENT CURTAIN RODS.

Adjustable Curtain Rods and Sockets. FOWLER & CO., 65 Beacon Street, Worcester, Mass.

PRINTING.

Good Printing quickly executed. F. S. BLANCHARD & CO., 6 Walnut Street. See Advt.

Printing and Engraving, HURLEY'S PRINTERY, 38 and 44 Front Street.

Posters, Show Cards, Theatrical and Commercial Printing. C. R. STOBBS, 16 Mechanic Street.

Commercial Printing and Blank-book Work. O. B. WOOD, 50 Foster Street. See Advt.

RAILROADS.

Boston & Albany division of N. Y. C. & H. R. R. R. See Advt.

RAZORS.

Manufacturers of all styles, including Safety Razors. J. R. TORREY RAZOR CO., Chandler Street.

REEDS.

Organ Reeds and Reed Boards. HAMMOND REED CO., Worcester, Mass. See Advt.

RAZOR STROPS.

Manufacturers of all styles of Strops, also Stropping Machine. J. R. TORREY & CO., Chandler Street.

ROLLING MILLS.

Continuous Rolling Mills, Gas Producers and Wire Mill Machinery. MORGAN CONSTRUCTION CO. See Adv.

SHOE MANUFACTURERS.

Heywood, the Worcester made Shoe. HEYWOOD BOOT & SHOE CO., Retail Store 415 Main Street. See Advt.

SLIPPERS.

Shoes and Slippers, Barefoot Sandals. Felt footwear a specialty. WORCESTER SLIPPER CO., J. P. Grosvenor, Prop., 370 Park Avenue.

STAMPINGS.

Worcester Pressed Steel Co., North Ave.; take Barbers' Crossing car. Light and heavy Stampings in all metals.

STEAM AND GAS FITTERS.

Braman, Dow & Co., Contractors for Heating Apparatus, Steam, Water or Vapor. Mill Piping a specialty. Summer Street.

STEAM AND GAS SUPPLIES.

Leading Makes of steam and hot water heaters. CENTRAL SUPPLY CO., 35 Waldo Street. See Advt.

SUIT CASES AND BAGS.

Largest and best variety, up-to-date in every respect. WARREN LEATHER GOODS CO.

WORCESTER BUSINESS DIRECTORY—Continued.

TACKS AND NAILS.

Shoe Tacks, Hungarian Nails, Hob Nails. P. E. SOMERS, 17 Hermon Street, Worcester, Mass.

TAXIDERMIST.

Chas K. Reed, Naturalists' Supplies. 75 Thomas Street, corner Union, Worcester Mass.

VALENTINES.

Valentines, Holiday Goods, Easter Novelties. THE GEO. C. WHITNEY CO., 67 Union Street, Worcester.

WATER METERS.

The Best Known Meter. UNION WATER METER CO. Hermon Street. See Advt.

WIRE FLY KILLER.

Bigelow Wire Fly Killer. It kills but does not crush the fly. J. F. BIGELOW, 11 Foster Street.

WIRE GOODS.

Wire of all Kinds. SPENCER WIRE CO., Worcester and Spencer. See Advt.

Wire Goods and Wire Novelties. WORCESTER WIRE GOODS CO. See Advt.

Wire, wire cloth and poultry netting. WRIGHT WIRE CO., Worcester and Palmer. See Advt.

WOOL-SPINNING MACHINERY.

Johnson & Bassett, Wool-Spinning Machinery. 114 Foster Street, Worcester, Mass.

BANKS.

WORCESTER NATIONAL BANK, 9 Foster Street. Incorporated as a State Bank in 1804; as a National Bank in 1864. Capital, $250,000; surplus and undivided profits, $321,508.72. Dividends April and October; rate past year, 8 per cent. President, James P. Hamilton; Cashier, Samuel D. Spurr; Assistant Cashier, F M. Hedden; Directors, A. George Bullock, Charles A. Chase, James P. Hamilton, Lincoln N. Kinnicutt, Edward L. Davis, George F. Brooks, Paul B. Morgan, Reginald Washburn, Matthew J. Whittall.

WORCESTER TRUST COMPANY, 344 Main Street. Incorporated in 1868. Crpital, $500,000; surplus, $500,000. Dividends January, April, July and October; rate past year, 6 per cent. William D. Lucy. President; Henry A. Marsh, Nathaniel Paine, Henry P. Murray, Vice Presidents; Samuel H. Ciary, Treasurer; Alvin S. Daniels, Secretary; Chairman of Board of Directors, Henry A. Marsh; Directors, Charles S. Barton, Geo. F. Blake, A. George Bullock, John H. Coes, Alexander DeWitt, Thomas B. Eaton, William Endicott, Jr., Henry F. Harris, C. Henry Hutchins, Lincoln N. Kinnicutt, Edwin T. Marble, J. Russel Marble, Neal Rantoul, Wm. H. Sawyer, Frank Bulkeley Smith, E. D. Thayer, Chas. M. Thayer, Robert M. Washburn, George W. Wells, M. J. Whittall, G. Marston Whitin, Robert Winsor, A. W. Parmelee, A. O. Young.

PEOPLE'S SAVINGS BANK, 452 Main Street. Incorporated in 1864. Deposits Februrry 1, $11,450,000. Guaranty Fund, $540,000. Number of depositors, 24,234. Deposits put upon interest February, May, August and November 1st. Dividends payable February and August 2d and added to the principal as of the 1st of those months if not withdrawn. President, Samuel R. Heywood; Treasurer, Charles M. Bent; Assistant Treasurer, Frederick W. White; Investment Committee, Samuel R. Heywood, Edwin T. Marble, Henry M. Harris, Charles M. Thayer, Alexander DeWitt.

THE WORCESTER MECHANICS SAVINGS BANK, Worcester, Mass. Organized, 1851. Officers: President, A. B. R. Sprague; Vice Presidents, John H. Coes, Thomas B. Eaton, Eli J. Whittemore; Treasurer, Frank W. Cutting; Trustees, A. B. R. Sprague, Thomas B. Eaton, Thomas G. Kent, Eli J. Whittemore, John H. Coes, Francis H. Dewey, Chas. A. Hill, Chas. F. Hanson, Geo. E. Merrill, Levis G. White, Francis W. Blacker, Henry S. Pratt, Arthur P. Rugg, Chas. D. Lamson.

WORCESTER FIVE CENTS SAVINGS BANK, 314 Main Street. Incorporated, April 1, 1854. Assets, $10,473,732.59; number of depositors, 34,421. Deposits received from five cents to $1000 and placed on interest January, April, July and October. Dividends payable on and after January 15 and July 15. President, Henry M. Witter; Vice Presidents, Simeon N. Story, Gilbert J. Rugg, Edwin Brown, Roger F. Upham, Otis E. Putnam, James Draper; Treasurer, J. Stewart Brown.

WORCESTER COUNTY INSTITUTION FOR SAVINGS, 13 Foster Street. Incorporated, February 5, 1828. Deposits, $20,430,771.54; assets, $21,912,744.63; number depositors, 39,955. Deposits put on interest January, April, July and October. Dividends payable January 15 and July 15. President, Charles A. Chase; Vice Presidents, Edward L. Davis, George E. Francis, Thomas H. Gage; Treasurer, Alfred L. Aiken; Board of Investment, Charles A. Chase, Samuel B. Woodward, George E. Francis, Lyman A. Ely, A. George Bullock; Clerk of Corporation, Charles F. Aldrich.

The Old Family Wine Store

SOLE MANUFACTURERS OF

G. F. H. PRIVATE STOCK WHISKEY

and

Cold Blast Ginger Ale

Write for Price List

GEO. F. HEWETT CO.

Established 1860
Telephone 2455

41, 43, 45 Waldo St., Worcester, Mass.

Boston & Albany RAILROAD
N. Y. C. & H. R. R. R., LESSEE.

NEW YORK CENTRAL LINES

Sleeping Car Service
Between Worcester and New York City

Via Boston & Albany R. R., over "Springfield Line."

Sleeper is placed in the Depot at 10.30 p.m., and may be occupied at that time; leaves 12.44 midnight; due New York City at 6.48 a.m.; sleeper will remain in Grand Central Station until 7 o'clock.

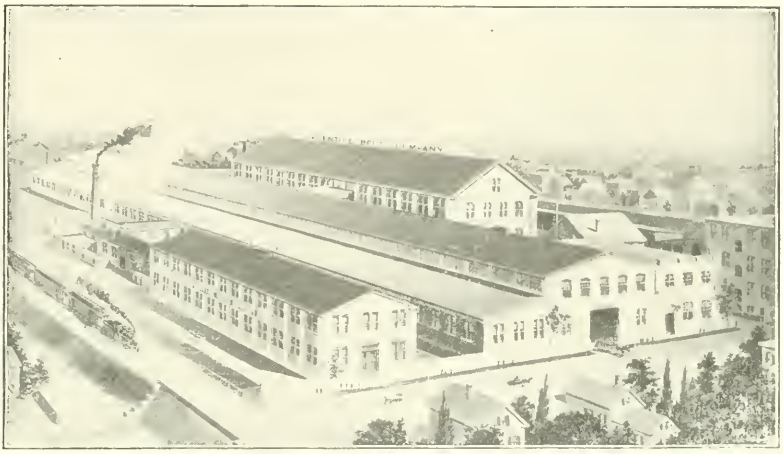
Returning Sleeper is placed in Grand Central Station 10 p.m., and may be occupied at that time; leaves at 11.00 p.m. Will be sidetracked at Worcester so that passengers may remain in car until 7 a.m. if desired.

10 TRAINS A DAY leave Worcester via New York Central Lines, as follows: 6.24, 9.40, 11.23, 11.55 a.m.; 1.05, 3.09, 4.39, 7.10, 9.09 p.m.; 1.05 a.m.

For reservations call on W. U. Bixby, Ticket Agent, Union Station.
J. E. Sweeney, City Ticket and Passenger Agent, 385 Main Street, Worcester.
A. S. HANSON, General Passenger Agent, Boston.

PRENTICE BROS. COMPANY,

WORCESTER, MASS.



BUILDERS OF

DRILLING MACHINES AND ENGINE LATHES.

COATES CLIPPERS

Coates Hair Clippers and flexible transmission.

COATES CLIPPER MFG. CO., WORCESTER, MASS.

MATTHEWS MANUFACTURING COMPANY,

MANUFACTURERS OF

STOVE TRIMMINGS,
BALL BEARINGS,

Steam-Pipe Collars,
Ferrules and
Sheet Metal Specialties.

104 Gold Street, Worcester, Mass.
A. T. MATTHEWS, Treasurer.

Commonwealth Press

An establishment fitted for

High Grade Printing

at a minimum cost

Once a customer, always one

O. B. WOOD, Proprietor
50 FOSTER ST., WORCESTER

Bay State House.

American and . .
.. European Plan

C. W. RIPLEY, Proprietor .·. WORCESTER, MASS.

WORCESTER

The Mecca of Manufacturers

Largest Manufacturing City in the United States not on a waterway—over 1000 Industrial Plants, employing 26,000 mechanics.

Has more than 3,000,000 people within a radius of 50 miles.

Has four great connecting Railroad Systems with superior shipping facilities.

Has 172 Passenger Trains a day.

Has 293 miles Street Railway Tracks, over which 30,000-000 passengers ride annually.

Has $52,000,000 deposits in Savings Banks, credited to 112,000 depositors.

Has Park System covering more than 1200 acres.

Has most beautiful Water Park in the country.

Has 210 miles of Streets, 176 miles of Sewers and 193 miles of Water Mains.

Has 95 Public Schools and institutions of higher education.

Has 25 Libraries with over 500,000 volumes.

The Largest Loom Works, Valentine, Grinding Wheel, Envelope, Corset, Brussels Carpet, Paper-box Machinery, Skate, Wire-working, Card Clothing and Spring Plants in the World.

For further information regarding Worcester, write to

Secretary Worcester Board of Trade

WORCESTER, MASSACHUSETTS

HAMMOND REED COMPANY

MANUFACTURERS OF

Organ Reeds, Reed Boards and other Organ Supplies

Telegraph and Cable Address, "Reeds." Worcester, Mass., U. S. A. **WORCESTER, MASS.**

ST. JOHN'S CHURCH, NORTHAMPTON, MASS.
The Norcross Brothers Co., Builders, Worcester, Mass.

Printing

as printing ought
to be

The Blanchard Press
Six Walnut Street, Worcester, Mass.

The most favorable place for the location of a Manufacturing Business.

Worcester

Massachusetts

Water Rate To Manufacturers Ten Cents per 1000 Gallons.

Central Location.

Unrivalled Railroad Facilities.

High-Grade Mechanics.

Unfailing Supply of Help.

Superior Schools the Attraction for Labor.

For further information address

Secretary,
Board of Trade.

14 Ap '0

State Mutual Life Assurance Company,

Worcester, Mass. *Incorporated 1844.*

Assets, . .	$27,303,304.60
Liabilities, .	24,659,522.00
Surplus, . .	$2,643,782.60

A. G. Bullock, President. H. M. Witter, Secretary.

STANDARD FOUNDRY COMPANY

Iron Founders.

Special attention given to the
Manufacture of High Grade

Machinery Castings.

TAINTER AND GARDNER STREETS, WORCESTER.

WEAR
WORCESTER MADE
SHOES

Finest Quality, Best Style : : : $3.50, $4.00, $5.00

HEYWOOD TRADE MARK SHOE

Heywood Shoe for Men

"Heywood Shoes Wear."

HEYWOOD TRADE MARK SHOE

Our Retail Store, 415 MAIN STREET

Heywood Boot & Shoe Co.

MANUFACTURERS

THE GRATON & KNIGHT MFG. CO.

OAK LEATHER

TANNERS AND BELT MAKERS

WORCESTER, MASS.

QUALITY IS OUR WATCHWORD

LIBRARY OF CONGRESS
0 014 111 053 6